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ABSTRACT

This final report discusses the activities and outcomes of the Self-Determination Synthesis Project (SDSP), a project designed to synthesize, corroborate, and communicate the professional knowledge base on the effects of self-determination and self-advocacy interventions for children and youth with disabilities. The SDSP used both quantitative and qualitative methods to identify effective practices in promoting self-determination for students with disabilities. A comprehensive literature review and meta-analysis of self-determination intervention outcomes was conducted with the extant literature. Twenty-two studies that intervened to promote one or more components of self-determination were included in the meta-analysis and a series of qualitative case studies were conducted in six school districts across the country that had a demonstrated history of effectively promoting self-determination for their students. The districts used a variety of strategies, ranging from published curricula to teacher-made lessons to person-centered planning strategies to promote self-determination. Student participation in educational and transition planning was also emphasized. Common features across sites that contributed to self-determination outcomes for students included the presence of an impetus person and multiple, changing roles of teachers and parents. Appendices include relevant articles, a summary of dissemination activities, and an implementation timeline. (Contains 30 references.) (CR)

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SELF-DETERMINATION SYNTHESIS PROJECT

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AND
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PROJECT CO-DIRECTORS

FINAL PERFORMANCE REPORT

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Final Performance Report
Self-Determination Synthesis Project
University of North Carolina at Charlotte
Wendy M. Wood and David W. Test, Project Co-Directors
Award No. H324D980069
10/1/98 – 9/30/01

Executive Summary

The professional literature on the topic of self-determination has been growing rapidly in the last decade. Much of this writing has addressed the "why" of self-determination, including the rationale that it is a basic civil right, a legislative mandate, and a right to which citizens with disabilities are entitled and have demanded. Additional research has bolstered the rationale for self-determination by demonstrating that people with self-determination skills have a better quality of life, and that positive outcomes are associated with being self-determined. The parameters of self-determination also have been thoroughly examined through the development of definitions, conceptual models, and the categorization of self-determination skills and behaviors. The literature also includes many "recommended," but not empirically-demonstrated, strategies for promoting self-determination.

The purpose of the Self-Determination Synthesis Project (SDSP) was to synthesize, corroborate, and communicate the professional knowledge base on the effects of self-determination and self-advocacy interventions in order to improve, expand, and accelerate the use of this knowledge by the professionals who serve children and youth with disabilities, and the parents who rear, educate, and support their children with disabilities. The SDSP used both quantitative and qualitative methods to identify effective practices in promoting SD for students with disabilities.

A comprehensive literature review and meta-analysis of SD intervention outcomes was conducted with the extant literature. The literature review yielded more than 800 resources on self-determination, including more than 450 peer-reviewed articles. Of those, only 51 studies were identified that intervened to promote one or more components of self-determination; 22 were included in meta-analyses. The median effect size across 100 group intervention comparisons (contained in 9 studies) was 1.38. In contrast, 13 single subject studies included 18 interventions and produced a median percentage of nonoverlapping data (PND) of 95% with a range of 64% to 100%. Seven of the interventions had a PND of 100%, suggesting strong effects. Although all components of self-determination were reflected in this research, most focused on teaching choice making to individuals with moderate and severe mental retardation or self-advocacy to individuals with learning disabilities or mild mental retardation.

A series of qualitative case studies were conducted in six school districts across the country that had a demonstrated history of effectively promoting self-determination for their students. These districts primarily focused on self-determination for their transition-aged students, although some districts began working with students in middle school and upper elementary grades. The districts used a variety of strategies, ranging from published curricula to teacher-made lessons to person-centered planning strategies to promote self-determination. Student participation in educational and transition planning was also emphasized. All of the sites expected students (and to varying degrees, their parents) to take responsibility for working toward their goals and following through with the decisions required to meet those goals. Common features across sites that contributed to self-determination outcomes for students

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included the presence of an impetus person, and multiple, changing roles of teachers and parents. Present and past barriers included lack of administrative support, student-related factors, and the resistance of parents and professionals to changing roles.

The meta-analysis and qualitative case studies yielded complementary findings and recommendations for future research and practice (e.g., longitudinal demonstration of teaching, learning, and impact on lives). The major finding of the SDSP is that there is still much more to be done. The findings of this project have been disseminated extensively through researcher-oriented and practitioner-oriented journals, presentations, inservice trainings, and the project web site. It is our hope that these dissemination efforts will contribute to further advancement in self-determination research and practice.

I. Project Purpose and Goals

The purpose of the Self-Determination Synthesis Project (SDSP) was to synthesize, corroborate, and communicate the professional knowledge base on the effects of self-determination and self-advocacy interventions in order to improve, expand, and accelerate the use of this knowledge by the professionals who serve children and youth with disabilities, and the parents who rear, educate, and support their children with disabilities. The objectives of the project were as follows:

1. To develop hypotheses with input from key stakeholders to focus the Project and enhance the usability and validity of the synthesis activities and outcomes;
2. To review, analyze, and evaluate the literature on self-determination (SD) to identify trends, areas of agreement and disagreement, unanswered questions, and gaps in the knowledge base;
3. To examine the SD practices being implemented, the environments in which SD is flourishing, and the outcomes being achieved through an in-depth analysis of four exemplar sites;
4. To communicate and develop an array of successful products and procedures for dissemination through technical assistance and information dissemination networks; and
5. To evaluate the implementation and impact of the Project.

The SDSP began in October 1998. The primary tasks for 1998-99 included refining the project objectives, beginning a literature review, and making visits to exemplar sites. The focus during 1999-2000 was the conclusion of the literature review and meta-analysis, and visits to the remaining exemplar sites. A one-year, no-cost extension that ended 9/30/01 was used to finish analyzing qualitative data from the exemplar sites and focus on dissemination of project results. The Project Activities section of this report describes progress made toward achieving the five objectives outlined above.

II. Context

Over the past 30 years, considerable change has occurred in the services provided to individuals with disabilities. From primarily custodial care, designed to protect, manage, and control the lives of people with disabilities in segregated environments, the special education system is becoming proactive in efforts to provide supports necessary for full participation in family and community life. Self-determination (SD), or taking control of one's life, is becoming a hallmark of providing full and complete special education services. Evidence of this belated recognition is clearly present in key pieces of disability legislation that have been passed or re-authorized since 1990 including the Americans with Disabilities Act of 1990, the Individuals with Disabilities Education Act, 1990 and 1997, and the Rehabilitation Act Amendments of 1992. These laws have all stressed the right of individuals with disabilities to choose what jobs they want, the means to achieve their personal goals, aspirations, and dreams, and where and with whom they want to live. While self-determination has been defined by many different authors (e.g., Abery, 1994; Field, 1996; Martin & Marshall, 1995; Wehmeyer, 1992) the consensus definition offered by Field, Martin, Miller, Ward, and Wehmeyer (1998) is:

> Self-determination is a combination of skills, knowledge and beliefs that enable a person to engage in goal directed, self-regulated, autonomous behavior. An understanding of one's strengths and limitations together with a belief in oneself as capable and effective are essential to self-determination. When acting on the basis of these skills and attitudes, individuals have greater ability to take control of their lives and assume the role of successful adults in our society. (p. 2)

The professional literature on the topic of self-determination has been growing rapidly in the last decade. Much of this writing has addressed the "why" of self-determination, including the rationale that it is a basic civil right, a legislative mandate, and a right to which citizens with disabilities are entitled and have demanded (cf. Brotherson, Cunconan-Lahr, & Wehmeyer, 1995; Martin, Marshall, & Maxson, 1993; Sands & Wehmeyer, 1996; Wehmeyer & Ward, 1995; Ward, 1996). Additional research has bolstered the rationale for self-determination by demonstrating that people with self-determination skills have a better quality of life (Wehmeyer & Schwartz, 1998b), and that positive outcomes are associated with being self-determined (Wehmeyer & Schwartz, 1997). The parameters of self-determination also have been thoroughly examined through the development of definitions, conceptual models (Abery, Rudrud, Arndt, Schauben, & Eggebeen, 1995; Field, 1996; Martin & Marshall, 1995; Wehmeyer, 1992; Wehmeyer, Palmer, Agran, Mithaug, & Martin, 2000), and the categorization of self-determination skills and behaviors (Field & Hoffman, 1994; Wehmeyer, Kelchner, & Richards, 1996).

The literature also includes many "recommended," but not empirically-demonstrated, strategies for promoting self-determination. Some of the most commonly suggested interventions are student involvement in IEP planning (Gillespie & Turnbull, 1983; Martin et al., 1993; Van Reusen & Bos, 1994), transition planning (Wehmeyer & Lawrence, 1995; Wehmeyer, & Schwartz, 1997), person centered planning practices (Vandercook, York, & Forest, 1989), and directly teaching self-determination skills (Hoffman & Field, 1995; Wehmeyer et al., 1998; West, Taymans, & Gopal, 1997).

While this overall literature on self-determination is extensive, it is not necessarily empirically-based. Most of the professional writing on self-determination has been devoted to position papers and conceptual work addressing why specific skills for making their own decisions should be taught to individuals with disabilities and how it should happen. While a few studies have explored the degree to which self-determination strategies have or have not been adopted by the field in the form of curricular changes and/or self-determination related IEP goals (Wehmeyer et al., 1999; Wehmeyer & Schwartz, 1998), research on the outcomes of self-determination interventions has been sparse. The purpose of the SDSP was to determine what the published research says about the effectiveness of interventions to promote self-determination, as well as what practices undocumented in the literature are used by schools demonstrating positive SD outcomes for their students.

III. Project Activities

Project planning and development

The first objective of the SDSP was to develop hypotheses with input from key stakeholders to focus the Project and enhance the usability and validity of the synthesis activities and outcomes. Toward this objective, the Project Team comprised of the two Co-Directors, two Research Associates, and Project Coordinator, developed preliminary research goals, protocols,

and data collection methods for both the quantitative and qualitative components of the study. These materials were brought to the Project Advisory Committee (PAC), which was comprised of consumers and self-advocates; parents of students with disabilities; educators; and researchers with extensive knowledge about self-determination practices. (Appendix A contains a list of PAC members.) The PAC convened for a two-day meeting in January of 1999. During this time, the group refined the initial research questions, narrowed the scope of the study, revised the research protocols for both the quantitative and qualitative components of the study, developed preliminary ideas for dissemination plans, and provided feedback about the web site. At this preliminary meeting the PAC also decided that their subsequent participation should take the form of mail and email updates, with members providing feedback on specific issues as requested by the Project Team. The Project Coordinator had periodic contact with PAC members through October 2001, when a final mailing of the project's products was sent to all PAC members.

In addition to the Project Team and the PAC, the work of the SDSP also was conducted by a total of five graduate assistants who assisted with the literature search; web site and lesson plan development; qualitative data management; and presentation preparation. The project web site was managed by an individual who worked on a contractual basis. A part-time secretary also provided clerical support to the project activities. Finally, the exemplar site studies were coordinated with a designated liaison at each site. These liaisons assisted with scheduling and logistical issues during each weeklong site visit.

Conceptual Framework. Before the literature review and case studies were initiated, the first phase of the project involved refining the scope of the studies. Self-determination has been described as an intervention and as an outcome (Algozzine, Browder, Karvonen, Test, & Wood, 2001). Given our focus on both characterizations, we defined the specific components of self-determination to be identified in the intervention literature. To define these, we reviewed definitions of self-determination published between 1972 and 2000 and listed all components identified by two or more sources. Concurrently, we examined conceptual models of self-determination and concluded that Wehmeyer's (1998) model contained the most definitional concepts and was based on research on these concepts (Wehmeyer, Kelchner & Richards, 1996).

Three concepts from Wehmeyer's (1998) model were excluded from the literature review and meta-analysis portion of the SDSP. Self-management and independent living skills were excluded because of the broad base of existing research, including major literature reviews, on these subjects (e.g., Quinn, Kavale, Mathur, Rutherford, & Forness, 1999; Snell, 1997). Incorporating either of these concepts in the current review would have over-emphasized their importance in the self-determination literature because of the proliferation of research on these topics. A third component, internal locus of control, was excluded due to concerns about construct validity (Lefcourt, 1984). The remaining components included in the literature review and meta-analysis were: (a) choice-making, (b) decision-making, (c) problem-solving, (d) goal setting and attainment, (e) self-advocacy, (f) self-efficacy, (g) self-awareness and understanding, and (h) self-observation, evaluation, and reinforcement. Based on the review of definitions and focus on self-determination as both an intervention and outcome, (a) person-centered planning, (b) preference assessment, and (c) relationships with others were also considered in finding and coding the literature. For consistency between the case studies and the literature review, the same components and methods were used to describe the findings from the exemplar site case studies.

The SDSP used both quantitative and qualitative methods to identify effective practices in promoting SD for students with disabilities. A literature review and meta-analysis of SD intervention outcomes was conducted with the extant literature. A series of qualitative case studies were conducted in six school districts across the country. While the overall purpose of each component of the study was to determine "what works" in promoting SD for students with disabilities, the research questions differed slightly for the two studies.

Research questions and methodology: Literature review and meta-analysis

The purpose of the literature review and meta-analysis was to summarize the research on self-determination across all disability groups to glean from this prolific literature specific, empirically validated practices for promoting self-determination with people with disabilities. The following research questions were of interest:

(1) What interventions have been studied to promote self-determination?
(2) What groups of individuals with disabilities have been taught strategies to promote self-determination?
(3) What outcomes of interventions to promote self-determination have been demonstrated?

The literature review and meta-analysis involved the following steps: (a) locating studies using replicable search procedure, (b) coding studies, (c) describing studies using demographic features and a common outcome scale, and (d) using statistical methods to find relations between study features and study outcomes.

Literature Search Procedures. A wide variety of electronic and print resources were screened to identify articles (published or in press) for possible inclusion in this study, including ERIC, EBSCOHost, PsycInfo, Dissertation Abstracts International, and the Council for Exceptional Children databases. Twenty-nine search terms (e.g., self-advocacy, problem solving, student-directed learning) were each used in conjunction with the word "disabilities" to narrow the search. Recent issues of relevant journals (e.g., Exceptional Children, Career Development for Exceptional Individuals, Learning Disabilities Research and Practice) were searched manually to identify references not yet included in electronic databases. In addition, the reference sections of included articles as well as position papers, chapters, and books on self-determination were reviewed to identify potentially relevant research. Finally, nearly 200 researchers and practitioners widely recognized as active in the field of special education were asked to identify and submit additional studies, including those recently submitted or accepted for publication. More than 800 resources on SD, including over 450 published articles, were identified through this literature search.

Inclusion Criteria. Abstracts, method, and results sections of potential articles were reviewed by two researchers knowledgeable in self-determination and research to ascertain appropriateness for inclusion and further consideration and inclusion according to six criteria:

(1) The article had to be published or "in-press" in a peer-reviewed journal between 1972 and 2000 (The year 1972 was selected because this was the date of the earliest definition found for self-determination.)
(2) The subjects had to be individuals classified with one of the disabilities recognized by IDEA or non-specified "developmental disabilities."
(3) Studies involving individuals from age 3 to adulthood were included.
(4) The article had to report the results of a data-based intervention. The article did not have to demonstrate experimental control and could be a report of a teaching intervention or a qualitative study.
(5) The intervention had to be one in which participants learned new skills or acquired new opportunities (for example studies that only identified preference patterns or existing self-determination skills were excluded).
(6) The intervention had to focus on a component of self-determination as a dependent variable.

Excluded from this study were reviews, position papers, or expository articles that did not report first-hand data, and research that did not involve direct interventions to promote self-determination (e.g., correlational and descriptive studies). The application of these criteria narrowed the pool of identified literature from 450 articles to ***just 51 studies*** for inclusion in the literature review. Twenty-two of these studies met the criteria for inclusion in the meta-analyses.

Each source identified through the literature search was screened to determine its potential for this study using the inclusion criteria described above. Each article that met the inclusion criteria was marked for further analysis. A coding form was developed, piloted, and revised for use in recording characteristics of the research that would be meaningful in subsequent analysis. Training on the use of the form was conducted in order to insure standardization of coding. A sample of 27% of identified articles was coded independently by two researchers to obtain an estimate of overall inter-rater agreement for the project. Average inter-rater reliability was .93. Results of systematic analysis of the included research literature were transferred from coding forms to an electronic spreadsheet and checked for accuracy with item-by-item, line-by-line examination by two researchers. The metric used to estimate and describe the effects of self-determination *group* interventions was the standardized mean difference (d-index) effect size (cf. Cohen, 1988). Effect sizes for single subject studies were calculated using Percentage of Nonoverlapping Data (PND). For the computation of PNDs, reliability was determined by having a graduate student recompute 8 of the 18 PNDs. Reliability was computed by doing an exact comparison of each numerator and denominator in the PND computation and found to be 100%.

Results of the literature review and meta-analysis

Following is a brief summary of the results of the literature review and meta-analysis. A complete description may be found in the Algozzine et al. (2001) manuscript, in Appendix B.

Most research has focused on choice making (38%), self-advocacy (37%), decision-making (20%), and problem solving (20%). In addition, we found that most studies targeted transition-aged students (ages 14-21) or adults (80.3%). Although all components of self-determination were reflected in this research, most focused on teaching choice-making to

individuals with moderate and severe mental retardation or self-advocacy to individuals with learning disabilities or mild mental retardation. The average effect size across 100 group intervention comparisons (contained in 9 studies) was 1.34, with a standard deviation of 3.69 and a standard error of 0.36. The distribution of ES measurements was positively skewed, indicating that most studies produced small changes in outcome measures. In contrast, 13 single subject studies included 18 interventions and produced a median Percentage of Nonoverlapping Data (PND) of 95% with a range of 64% to 100%. Seven of the interventions had a PND of 100% suggesting strong effects.. We also found that the majority of SD research (55%) has not included any longitudinal follow-up data (i.e., 12% collected follow-up data from 0-2 months, 27% collected data for 3 to 6 months, only 6% collected follow-up data for one year, no studies examined adult outcomes for students who participated in SD interventions). Further, SD intervention studies typically demonstrated improvement in SD skills, but data on student ability to apply skills to non-training environments was limited.

Research questions and methodology: Qualitative case studies of exemplar sites

The purpose of the exemplar site case studies was to determine what practices exist that may be undocumented in the literature, yet are effective in advancing self-determination for students with disabilities. The questions used in the qualitative case studies of exemplar sites were:

(1) What are the promising practices for implementing strategies that promote SD?
(2) What conditions support effective implementation of SD strategies?
(3) What barriers exist that prevent SD outcomes from occurring at sites with demonstrated successful SD practices?

Nominations for exemplar sites were solicited by two methods. First, direct mailings were sent to nearly 200 experts, including researchers, self-advocates, and practitioners in the fields of self-determination, transition, and special education. Second, an announcement calling for exemplar site nominations was also published in the *TASH Newsletter*, the *APSE Advance*, the *CEC Newsletter*, and on the project's web site (www.uncc.edu/sdsp). From 18 nominated sites, six sites were identified as "exemplary" using a purposeful sampling procedure known as "reputational case sampling" (Schumacher & McMillan, 1993). The selection process included telephone interviews conducted with the site liaison and at least one parent whose son or daughter participated in the nominated program. Each site also submitted one student's IEP for review. Sites were selected based on the extent of evidence of self-determination practices in the nomination materials and anecdotal descriptions of student outcomes. An effort was also made to select sites that were diverse in terms of geographic location, size of program, demographic characteristics of the population, approaches to promoting SD, and the range of needs of the students receiving special education services.

Once each site was selected, a site liaison worked with the SDSP staff to identify individual participants and schedule interviews and observations. Participants at each site included teachers, administrators, human service agency representatives, family members, and program students and graduates. Data collection took place primarily during intensive site visits conducted by three members of the Project Team. Data were collected from each site through individual and focus group interviews; observations of classrooms, IEP meetings, and other settings; and document review and analysis. Follow-up data collection, usually for the purpose of clarifying or expanding data collected during the site visits, took place via telephone, mail, and email. A total of 190 hours were spent collecting data in the field.

Protocols for data collection methods were developed with input from the PAC. Individual and focus group interviews were semi-structured and lasted between one and two hours each. Classroom and IEP meeting observations lasted between 30 and 120 minutes and were documented using both unstructured field notes and a protocol form to ensure consistency of data collection across observations.

Data were analyzed after each site visit. Four researchers, including three who visited each site and one who was an investigator on the project but who did visit the site, independently reviewed transcripts and field notes to identify emergent themes. The group then met to discuss themes and reach consensus on the elements of the program that contributed to student SD, as well as the factors that served as barriers to student SD. As the site visits spanned 16 months, unique or unexpected findings from each site were incorporated into data collection at subsequent sites. Cross-case analyses (Miles & Huberman, 1994) were conducted as data from each site were analyzed. Finally, findings from each site, as well as transcripts from the cross-case discussion meetings, were analyzed.

Trustworthiness of the data was insured in several ways (Lincoln & Guba, 1985). Participants were given the opportunity to review, correct, and clarify transcripts from their interviews prior to analysis. The use of multiple data collection methods, obtaining information from a variety of informants at each site, and having three researchers collect data at each site are methods of triangulation that lend credibility to the data. Finally, the cross-site analysis promotes generalizability of findings to other districts.

Results of the research: Qualitative case studies

A total of six sites participated in the case studies, including two in Colorado, two in Illinois, one in Kansas, and one in New York. Brief descriptions of the promising practices in each of the programs are provided below. Complete descriptions of each site are featured on the project web site (www.uncc.edu/sdsp).

Fountain-Fort Carson. The program at Fountain-Fort Carson High School serves high school students with disabilities, including learning disabilities, mental retardation, hearing impairment, serious emotional disturbance, and orthopedic impairment. The program includes opportunities for students to learn and apply self-advocacy, goal-setting, problem-solving, self-awareness, and decision making skills through direct instruction in classes, participation in Individualized Educational Program (IEP) planning, vocational and post-secondary exploration, and application of skills in other settings. Students enroll in a Self-Advocacy course as a freshman or sophomore, and then in a Transition Issues course in their junior or senior year. A major focus of the Transition Issues class is a life issues simulation game called "Get a Life" in which students apply decision-making, self-management, problem-solving, goal setting and attainment, and other self-determination skills to issues such as independent living, post-secondary education, and career planning. Self-determination skills also are embedded in other classes, both in self-contained settings and in general education environments. Students enrolled in Fountain-Fort Carson School District typically begin attending their IEP meetings and providing input into their IEP goals and objectives by ninth grade, and as seniors are expected to lead their IEP meeting. Students have the option to participate in vocational exploration through a partnership with the School-to-Work Alliance Program (SWAP), and in community-based activities provided by Fountain-Fort Carson High School.

Cheyenne Mountain. Cheyenne Mountain High School offers a program called Learning and Educating About Disabilities, commonly called the LEAD Group. The mission of

the LEAD Group is "to educate ourselves and others with respect to dealing with the social, academic, and emotional aspects of learning disabilities." While the group was originally designed for students with learning disabilities, it has included students with other mild disabilities (e.g., hearing impairment) and those with 504 plans. LEAD group students participate in a one-credit course that includes education about their disabilities and coaching on the use of self-advocacy skills. The class also acts as a support group for members as they practice their self-advocacy skills (e.g., by discussing their needed educational accommodations with general education teachers). Students also make presentations to a wide variety of groups including teachers, students in other schools, the business community, and future teachers, about what it means to have a learning disability and how people can cope with their disability in educational or work settings. One unique feature of the LEAD Group is that students are in charge of designing the course and planning activities. LEAD group members also mentor students with learning disabilities who are in upper elementary and middle school grades. A recent addition to the self-determination practices at Cheyenne Mountain High School is a class for freshmen that features a curriculum designed to increase students' knowledge about their disabilities and potential learning accommodations.

James B. Conant High School. Self-determination was infused into the special education programs at Conant High School beginning in the early 1990s through a federally funded transition systems change grant that included interventions for students and parents. Since then, self-determination also has been incorporated into a self-contained setting for students with severe behavioral and emotional problems, and a half-day self-contained setting for students at risk for dropping out of school (called LifeWorks). While no special self-determination curriculum is currently used at Conant, everyday practices contribute to students' self-determination. Students are presented with their options and staff allows them to make their own choices. Even if students make choices that result in negative outcomes, the staff waits until students have experienced failure and are motivated to succeed before helping the student re-evaluate options. Teachers and other staff members emphasize mutual respect and support for the students, without taking responsibility for students' decisions or the outcomes from those decisions. Teachers infuse principles of self-determination into existing academic curricula. The school's mission statement includes themes of problem-solving, personal responsibility, and citizenship

UIC Advocacy and Empowerment for Minority Youth with Disabilities Program. The purpose of the Empowering Choices Project is to prepare youth (grades 11-12) with disabilities for competitive employment after graduating from high school. The goal of the Empowering Transitions Project is to develop students' (grades 9-10) competencies to assume a proactive role in their education and vocational development. Both Projects emphasize goal setting and attainment, empowerment, and self-advocacy. The Projects also help students learn to recruit mentors who can help them achieve their personal goals. Both projects include a classroom-based curriculum and case management services. Empowering Choices emphasizes parent support and education, while Empowering Transitions emphasizes vocational guidance and exploration. A case manager assigned to each school conducts biweekly sessions with participating students at the school. Lessons are taken from *A road-map for success: Setting goals and recruiting mentors* (Balcazar, Garate-Serafini, & Keys, 1999) and include group discussion, role play, and other activities to teach self-awareness, self-advocacy, goal setting and attainment, and job seeking and maintenance skills. Some of the activities allow for peer modeling as well as modeling by the case manager. Each student in the project works intensively

with one of the case managers on personal goals and vocational exploration. The case manager may engage in a wide range of activities, such as arranging for tutoring or mentoring, providing transportation to job interviews, or talking with the families about students' progress in school or in seeking a job. The case manager also often assumes the role of a job developer and an informal counselor, attending IEP meetings with the student. Parent education is also a component of the program.

Blue Valley. Blue Valley Schools has several programs that effectively promote self-determination for students with disabilities, including resource and self-contained classrooms at the middle and high school levels, the semi-independent learner programs at the high school level, and the Adult Cooperative Community Education Services and Support (ACCESS) program for students ages 18 to 21. Students in grades 6-12 in resource settings benefit from extensive instruction using learning strategies, including *The Self-Advocacy Strategy* (Van Reusen, Bos, Schumaker, & Deschler, 1994). At the middle school level, resource teachers plan with grade-level planning teams to monitor student progress and develop strategies to help the students be successful in their academic classes. Several special education teachers at Blue Valley are trained in Learning Strategies techniques; they often model the techniques for classroom teachers to use with all of their students. The ACCESS program, designed as a transitional program for students with moderate and severe disabilities, is based in a house that serves as a training facility for independent living skills. Students in the ACCESS program develop self-determination skills through participation in community activities, such as recreational and continuing education classes at a local community college. Blue Valley has a strong culture in which student self-determination is the expectation, rather than the exception, for all students with disabilities.

Monroe BOCES Circles of Support Program. The Circles of Support program began with a grant from the New York Developmental Disabilities Council. The purpose of the project is to use person-centered planning to help students and their families achieve desired transition outcomes. Students who participate in Circles of Support have developmental disabilities and multiple impairments, including moderate and severe mental retardation, autism, speech and language impairment, orthopedic impairment, and traumatic brain injury. Students between the ages of 18 and 22 years, and their families, participate in the project. A Transition Coordinator and a Parent Partner, who is a parent of a child with a severe disability, staff the project. Students, with their families, use MAPS to develop their goals, and then a Parent Partner helps families identify and access services to help students meet their goals. Parent Partners also link students with agencies and arrange job try-outs and other experiential opportunities so students can make informed choices about their future. After students have completed a job try-out, the student or Parent Partner takes pictures of the student at the job site. The pictures are then used at future meetings to help the student identify features they liked and disliked about the job. Monroe BOCES has strong collaborative relationships with local advocacy organizations and other service agencies, which also use a range of practices to promote self-determination for consumers. Monroe BOCES has demonstrated creativity in developing opportunities for students to experience interests and make informed choices about their futures.

As mentioned in the methodology section of this report, a cross-site analysis was conducted to examine commonalities and differences across the six sites. Following is a brief summary of the findings from the cross-site analysis. A more comprehensive description will be available in a manuscript currently in preparation (Wood, Test, Karvonen, Browder, & Algozzine, 2001).

Strategies and Practices. Each of the exemplar sites used a variety of practices to promote student self-determination. Many of the practices were unique to each site and developed as creative responses to student needs. Consistent with the literature review and meta-analysis findings, most sites included some kind of teacher-made or published curriculum to teach self-determination skills to their students. The teaching sequence often included providing information, modeling, role play, and generalization (e.g., asking another teacher for an accommodation). Student participation in planning was expected at all of the sites, although the type of planning (e.g., IEP writing versus personal goal statements) and the extent of coaching varied. All of the sites expected students (and to varying degrees, their parents) to take responsibility for working toward their goals and following through with the decisions required to meet those goals. While teachers often described situations in which they disagreed with the students' choices, they did not interfere with the choice-making process and in fact honored students' choices across the board. Several sites emphasized the need for students to experience the consequences of their decisions in order for students to learn from past decisions and make future decisions that would help them attain their goals.

Conditions that support effective implementation of SD interventions. Perhaps one of the most common conditions seen in the exemplar sites was the presence of an "impetus person;" that is, an individual with a philosophy, and the accompanying motivation, to see SD-enhancing practices implemented in his or her school or district. This person's role varied at each site, from classroom teacher to guidance counselor to transition coordinator to student services coordinator for the district. Whether intentionally or not, this person influenced other educators by sharing their philosophy, or demonstrating practices (e.g., coaching students on IEP participation) that enhanced student self-determination. At some sites, general education teachers saw the outcomes for students who were taking greater responsibility for their learning and began working with the impetus person to incorporate similar strategies into their own teaching practices. This impetus person was often the primary force in creating a culture within the school or district that supports, and expects, self-determined student behavior. In many cases, this impetus person had close linkages to a local university with a special education teacher training program. Despite the range of barriers that existed at each of the sites, this impetus person maintained a "can-do" attitude that had a profound influence on the self-determination practices at their school or district.

The roles of the teacher and parent also shared some common features across the sites. The teachers often assumed multiple roles, as mentor, counselor, instructor, and case manager. In at least two sites, teachers enhanced their role as mentor by choosing to disclose their own disabilities to their students. A wide range of participants at the sites, including educators, parents, and students, described behavior of the teachers that signaled consistent, high expectations for all of their students. These expectations were sometimes made explicit, but were also implicit within informal conversations, classroom lessons, discussions with parents, and interactions with other teachers. Parents at the sites also assumed the roles of coach, role model, and advocate. However, one element to student self-determination perceived as critical by most sites was that parents' roles needed to change as the student aged and was able to assume more responsibility for his or her own life. Even for students with more severe disabilities, parents described a process by which their sons and daughters expressed their preferences and had those preferences honored by the parents and service providers.

Barriers to self-determination. Several barriers to self-determination were common to all of the sites. While some sites, especially those with long established programs, had surpassed

their hurdles, others were still working to overcome some barriers. Inadequate administrative support, whether past or current, may have been the most common barrier across all of the sites. Those sites with strong administrative support had programs that were successful in spreading throughout schools and districts, while those programs in districts without administrative support for student self-determination were limited to small pockets of classrooms and teachers who were dedicated to doing as much as they could to further their students' self-determination with what limited resources they had available.

Student characteristics were also sometimes perceived as barriers. Descriptions of students who simply "refused to grow up," or who had reached a stage of learned helplessness after years of academic failure, or who lacked the ability to express their preferences – verbally or nonverbally –had difficulty becoming more self-determined. Even those students who eventually became self-determination exemplars themselves admitted that they did not like self-determination at first.

As much as students sometimes had difficulty changing their roles, sometimes professionals and parents also were described as clinging to their old roles. For example, some professionals were described as having difficulty with the idea of allowing a student to run his or her own IEP meeting. The persistence of old roles created a state of environmental non-responsiveness to students who may have been tentatively trying to act in a more self-determined manner, only to find that they were discouraged from making those changes.

Implications for practice, policy and future research

The primary purpose of the SDSP was to synthesize what is known about effective methods to promote self-determination for students with disabilities, in order to disseminate the information to those who can improve educational practice. The review of all existing materials on self-determination revealed that, while much has been written about the subject, very little of the literature describes the efficacy of self-determination interventions. While the 51 studies in the literature review contained examples of all the self-determination components, most focused on either teaching choice-making to individuals with mental retardation or self-advocacy to individuals with learning disabilities or mild mental retardation. Fewer studies exist on self-determination components like goal setting and attainment, self-regulation, self-evaluation, and problem solving outside the literature on changing staff-identified behavior. Most of this research also has focused on enhancing self-determination for adolescents or adults. In contrast, the research to date provides only a few examples of how to teach these skills to younger students. This literature also lacks diversity across disability groups. Most applications have employed participants with mental retardation or learning disabilities. Research on self-determination for individuals with autism, emotional disturbance, and sensory impairments may replicate some of the current procedures or identify alternatives that are more appropriate to these disability groups.

Another shortcoming in the self-determination literature is that most studies have focused on improving one or two self-determination skills like choice-making, problem-solving, and/or self-advocacy. What does not yet exist are many examples of how to help students make longitudinal progress in a comprehensive self-determination curriculum; however, a number of the group studies included several foci. There is some support that focusing on more components will yield more results–either because there is a synergistic effect, or because there is a great deal of overlap between some of these skills (e.g., problem-solving and decision-making). The need exists to demonstrate how to teach students to have a broad range of skills in self-determination.

For example, a future challenge like maintaining employment may require using decision making, problem solving, goal attainment, self regulation, and self-advocacy and being able to discriminate which skills are appropriate in a given context. The exemplar sites have demonstrated how some clusters of skills can be enhanced with a variety of interventions.

Promoting self-determination for school-aged students not only involves teaching new skills, but also creating environments in which students can be encouraged to use these skills. Some of the studies in the literature review used ecological interventions in addition to, or in lieu of, skill instruction. The importance of a culture that supports self-determination was also made evident in the exemplar site studies. A question for future research is the extent to which this staff training generalizes to providing multiple opportunities for a broad range of self-determined behaviors. For example, do staff who learn to teach a self-determination curriculum create opportunities for students to make their own decisions in the typical classroom routine? Do staff who learn to offer more classroom choices also create opportunities for choice-making in other school or community settings? Also, how might interventions to increase administrative and general educator support for SD influence students' opportunities to act self-determined throughout the school?

The emerging literature provides an important foundation for promoting self-determination for students with disabilities in current school contexts. The research illustrates most clearly how to teach choice-making to individuals with moderate and severe disabilities and self-advocacy to individuals with learning disabilities or mild mental retardation. In contrast, much more research is needed to:

(1) *Demonstrate self-determination can be taught.* The current literature demonstrates that a few self-determination skills can be taught to a subset of individuals with disabilities. We do not yet have information on how to teach more complex self-determination skills (e.g., self-advocacy, goal attainment) to individuals with severe disabilities. We have minimal information on how to individualize this instruction for students with sensory impairments, autism, or emotional disturbance. We have no examples of how to plan and implement a comprehensive self-determination curriculum in which students progress across grade levels. We have only begun to consider ways to promote self-determination through redesigning the classroom and school climate. With those interventions and populations that we currently know less about working with, we also need to know more specifics about best intervention practices. For example, are there benefits of providing instruction over a series of sessions vs. several longer ones, or providing interventions that target the individual or the support system?

(2) *Demonstrate self-determination can be learned.* We have strong evidence that individuals with mental retardation can learn to make choices and solve problems (single subject literature). We have more modest evidence that individuals with mild mental retardation and learning disabilities can learn to self-advocate (group literature). We have only a small amount of information about children acquiring self-determination skills and this is limited to choice-making. In the growing popularity of the concept of self-determination that is reflected in both the expanding literature and development of curricula, it is essential to demonstrate that students can master and use these skills. In the absence of such demonstrations, self-determination may become no more than a professional buzzword.

(3) *Demonstrate self-determination makes a difference in the lives of individuals with disabilities*. Only a small number of studies (13%) have included any measures of outcomes of self-determination interventions in the lives of participants such as new opportunities for school, employment or leisure activities. To return to one of the earliest definitions of self-determination, Deci (1975) described a "life filled with rising expectations, dignity, responsibility, and opportunity." The risks exists of teaching students a few skills such as choosing between two food items or stating goals at an IEP meeting and missing the "big picture" of the expanding life opportunities. Future research needs to include outcome indicators to determine how specific interventions influence the quality of the lives of people with disabilities.

The exemplar site case studies offer a range of effective strategies, as well as recommendations to other schools that may be planning to implement self-determination interventions:

(1) *Begin earlier.* Self-determination within the educational context originated in the transition movement for students ages 14-21. Most of the exemplar sites continue to work with students in that age range in order to prepare them for adult life. However, repeated recommendations from educators, parents, and program graduates included the suggestion that self-determination instruction begin before high school. A couple of the exemplar sites work with students in middle school and even upper elementary grades on developing self-awareness and goal setting. However, site participants suggested that more systematic efforts could begin at even younger ages. This recommendation is consistent with published recommendations for self-determination instruction (Sands & Wehmeyer, 1996).

(2) *Parents and teachers need to agree about the course of self-determination instruction.* While parents may be willing to leave day-to-day self-determination instructional decisions to teachers, it is important that parents and teachers have general agreement about topics of student decision-making, consequences, and the level of risk that is acceptable for students.

(3) *Teachers continue to need opportunities to learn how to effectively promote self-determination for their students*. As mentioned above, one commonality among the exemplar sites was the presence of an "impetus person" who had a leadership role in implementing self-determination practices and creating an environment that supported self-determined students in their district. While each impetus person played a significant role in his or her district, the fact that the leadership base was not very broad speaks to the fragility of the system. Without the presence of the impetus person, it is uncertain what might happen to the existing self-determination instruction. To broaden the base of self-determination knowledge and practice, it will be important to include self-determination in all levels of personnel preparation programs, including preservice and inservice for special educators and general educators. Administrators should also receive training about self-determination so they are able to support the efforts of their teachers.

Dissemination

Dissemination of the SDSP findings and products began within six months of the beginning of the project and continues at the date of this report (December, 2001). To date, six

manuscripts have been published or accepted for publication in peer-reviewed journals. One more practitioner-oriented article has been submitted for publication, and one more manuscript is in preparation with anticipated submission by February 1, 2001. Also, 13 presentations on the SDSP have been conducted at national conferences such as the Association for Persons with Severe Handicaps (TASH), Council for Exceptional Children (CEC), and the CEC Division on Career Development and Transition (DCDT). Two more presentations will be conducted, one at the CEC convention in April, 2002 and one at the NC Association for Behavior Analysis in February, 2002. Copies of published articles, in press manuscripts, and an example presentation are included in Appendix B.

Guest lectures and half-day workshops have also been conducted with practitioners, including teachers in two North Carolina school districts, graduate students in a transition certificate program at UNC Charlotte, and teachers employed by the North Carolina Department of Corrections, Division of Prisons. A complete list of dissemination products is included in Appendix C.

A project web site (http://www.uncc.edu/sdsp) contains a summary of project objectives as well as a number of practitioner-oriented products (e.g., a comprehensive database of more than 800 SD-related materials, a list of SD curricula, research-to-practice lesson plans, descriptions of the programs at the exemplar sites, and a list of manuscripts and articles from the SDSP). This site has logged more than 2,300 hits since March 1998. Because several articles about the SDSP refer the reader to the project web site for more information, project products will continue to be made available on the site indefinitely. This Bobby-approved web site will continue to be the primary vehicle for dissemination. A link to the Project Co-Director's email address and a phone number and mailing address are available on the web site for individuals seeking additional information. Copies of this final performance report will also be sent to the National Transition Alliance and the ERIC Clearinghouse on Disabilities and Gifted Education, where they will be made available upon request.

Project evaluation

Evaluation of the SDSP consisted of a comparison of actual implementation to planned implementation in order to determine if discrepancies existed, why they existed, and what was done to address any discrepancies. An implementation timeline (Appendix D) provides a summary of intended objectives and actual progress through September, 2001.

IV. Conclusions

The major finding of the SDSP is that there is still much more to be done. In some ways it may have been premature to conduct a synthesis of what works, since only 51 studies were found. However, the vast number of other published materials made it seem like it was time. What this synthesis should do is provide an impetus for more intense, future research on the areas described earlier (e.g., longitudinal demonstration of teaching, learning, and impact on lives).

Another important lesson learned from the SDSP is that in order to understand the complete picture of existing resources and what works in promoting self-determination, one cannot simply look at the peer-reviewed intervention literature. Information about effectiveness of interventions exists in other places (e.g., field test results in curriculum manuals that are not published, unpublished dissertations). Our project collected information from monographs,

videos, curricula, project reports, presentations, and dissertations. While none of these were included in the meta-analysis, they provided an important context for both the literature review and the case studies. Also, having a list of these resources available on the web site may be one of the most effective ways to move the project findings into practice. Email requests for information from the project coordinator during the past three years have focused on self-determination assessment instruments, curricula, lesson plans, and articles about specific aspects of self-determination. The web site, which contains information about these issues, provides a unique resource that may be more accessible to practitioners than search engines that are often available only through university libraries.

A final lesson of the SDSP is that two years is an insufficient period of time to conduct an intensive case study of six exemplar sites. While the original proposal specified four exemplar sites, the fact that two geographic locations each had two very different (and very successful) programs meant that we were not going to bypass the opportunity to collect data from additional sites. While 190 hours were spent in the field collecting data, a tremendous amount of additional time was spent managing, coding, analyzing, and synthesizing the data from the exemplar sites. Because qualitative studies are very staff intensive, one recommendation for future OSEP projects is that reviewers carefully consider the personnel commitments specified in grant proposals to insure that they are consistent with the amount of work that will be required for a rigorous qualitative study.

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Appendices

A List of Project Advisory Committee members
B Articles, in press manuscripts, and a sample presentation
C Summary of dissemination activities
D Implementation timeline

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Reviewing Resources on Self-Determination

A Map for Teachers

DIANE M. BROWDER, WENDY M. WOOD, DAVID W. TEST, MEAGAN KARVONEN, AND BOB ALGOZZINE

ABSTRACT

With the growing number of resources on self-determination, teachers may find it difficult to locate the information that will be most useful for planning educational programs. This article provides a map for teachers to use in searching the self-determination literature to find usable ideas. This map includes two primary paths. The first leads through the conceptual literature to the destination of increasing understanding of self-determination. In following this path, teachers may locate information on the concept or on its specific components, such as choice making, problem solving, and self-advocacy. Examples include conceptual resources that may be especially useful for teachers. The map also points to pitfalls to avoid while gaining understanding of self-determination, such as assuming that everyone values the same adult outcomes. The second path travels through the intervention literature, including research studies, how-to resources, and published curricula, and leads to designing self-determination instruction and environmental supports. Examples are offered from these resources on how teachers can develop Individualized Education Programs, identify teaching strategies, develop environmental support, and use the resources for personal development.

SELF-DETERMINATION HAS BEEN WIDELY DESCRIBED as an important educational outcome for learners with and without disabilities (Abery & Zajac, 1996; Hoffman & Field, 1995; Serna & Lau-Smith, 1995; Wehmeyer, 1996; Wehmeyer, Agran, & Hughes, 1998). Wehmeyer and Schwartz (1997) found that individuals who scored higher on a measure of self-determination than their peers had more positive adult outcomes, such as a higher rate of employment and higher wages 1 year after graduation. A recent position statement by the Division on Career Development and Transition of the Council for Exceptional Children (Field, Martin, Miller, Ward, & Wehmeyer, 1998b) said, "self-determination instruction during the elementary, middle, and secondary transition years prepares *all students* for a more satisfying and fulfilling adult life" (p. 118).

Ward (1988) defined self-determination as the abilities and attitudes that lead individuals to define goals for themselves and to take the initiative in achieving those goals. Self-Advocates Becoming Empowered (1996) defined self-determination as:

> speaking up for our rights and responsibilities and empowering ourselves to stand up for what we believe in. This means being able to choose where we work, live, and our friends; to educate ourselves and others; to work as a team to obtain common goals; and to develop the skills that enable us to fight for our beliefs, to advocate for our needs, and to obtain the level of independence that we desire.

In general, self-determination means taking charge of one's life. Teachers can play an important role in promoting the abilities and attitudes individuals will need in order to take charge of their lives through both providing instruction in self-determination skills and creating school environments where these skills can be practiced. The challenge for teachers is to locate usable ideas among the growing resources on self-determination.

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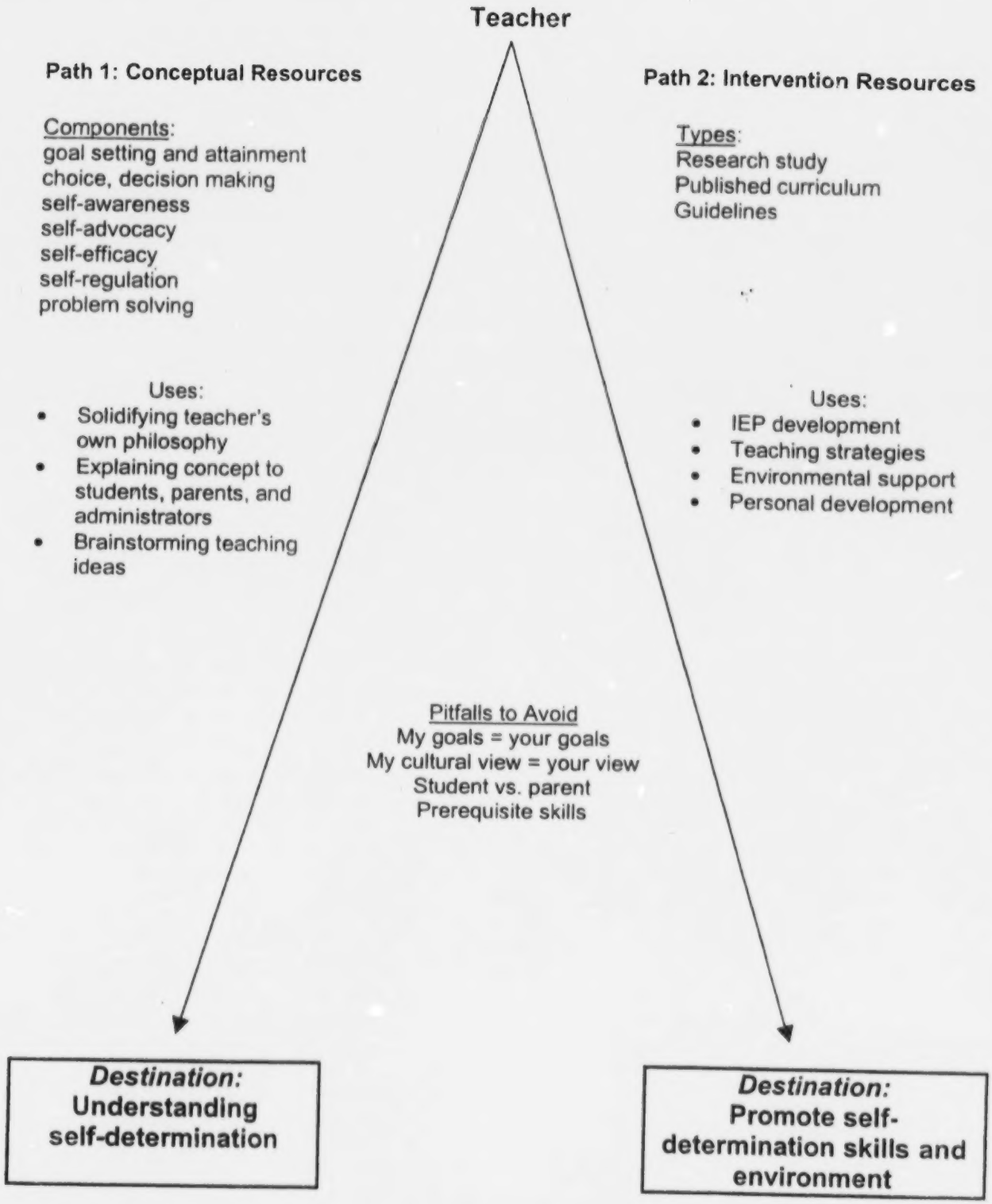

FIGURE 1. A map for teachers to follow in reviewing resources for self-determination.

abdicate their caregiving role, leaving children to try to parent themselves (Chase, 1998). It would be unfortunate if the concept of self-determination was misunderstood to mean that children and adolescents do not need parental guidance and nurturing.

The relationship between special educators and families has not always been optimal, and resources are now available that describe how to improve this partnership (Turnbull & Turnbull, 1997). Encouraging self-determination should not involve "siding with students" to help them be free of parental influence. Teachers need to respect parents' authority in the lives of their children. In contrast, the Individuals with Disabilities Education Act Amendments of 1997 require informing the student of his or her rights under the law 1 year before the age of majority is reached. In U.S. society, self-determination is legally recognized at age 18. For minors, good parenting sometimes requires overruling decisions their children make that are unsafe or unwise. In contrast, when students turn 18, they have the legal right to make decisions for themselves and are held legally accountable for them, unless the courts remove this right through guardianship assignment. In preparation for this adult role of their students, teachers and parents need to work together to help students learn to make wise decisions.

To collaborate with parents, teachers can make planning activities such as the IEP both family centered and student centered. Miner and Bates (1997) found that having a person-centered planning meeting in preparation for the IEP encouraged family involvement in the planning process. Sometimes parents of adolescents need help understanding how to transfer control for decision making to their children as they mature. Some self-determination curricula and related materials include resources for parent involvement (Abery, 1994; Curtis & Dezelsky, 1986; Field et al., 1998b; Matuszewski, 1998). Teachers might also consider providing parents with an in-service or other resources on promoting self-determination. For example, The National Arc Headquarters publishes a pamphlet that suggests 10 steps parents can follow to encourage their children's self-determination at home (Davis & Wehmeyer, 1991). Some of these steps include teaching children that what they say is important and can influence others, encouraging children's self-worth and self-confidence, not leaving choice making to chance but offering specific opportunities for children to make choices, and helping children recognize the process needed to reach their goals.

Pitfall 4: Requiring Prerequisites for Self-Determination

Another potential pitfall is to assume that there are prerequisite skills that a person must master in order to be self-determined. In this viewpoint, some people are not ready to be or capable of being self-determined. Although many self-determination curricula require academic, cognitive, or language skills that some students with disabilities do not have, mastering these skills is not a prerequisite to teaching students to take charge of their lives. Assuming that self-determination only applies to individuals who will achieve independent living as adults is a misinterpretation of the concept (Wehmeyer, 1998). All *individuals have the right to be self-determined.* High-quality skill instruction can help students exercise this right to the fullest extent possible; the lack of prerequisite skills does not negate a person's right to be self-determining. For example, students with severe disabilities can take charge of their lives through making their preferences known, even when they rely on others for assistance. Sometimes teachers need to use systematic methods to understand the preferences of individuals who do not have symbolic communication (Lohrmann-O'Rourke & Browder, 1998). When preferences are recognized, they can be honored in planning for support needs.

Given that establishing prerequisites for self-determination can discriminate against individuals with severe disabilities, do they make sense for young children? Brown and Cohen (1996) described how the concept of self-determination is also applicable to young children. The application of the concept may differ across the school years, but the philosophy is the same at all stages: We want to promote students' skills and opportunities to take charge of their lives and learning. Most school curricula follow a sequence based on students' chronological age and past learning. For example, young children receive instruction on community helpers to prepare them for increased independence in their neighborhoods, and high school students receive instruction about government systems to prepare them as voters and world citizens. Similarly, promoting self-determination should be chronologically age appropriate. Young children can learn to make choices about what to eat and what to wear, and they can solve problems, such as a peer taking their toy. Children typically do not decide where they will live and whether to go to school, but they need to begin learning how to make these decisions when they become adolescents, to prepare for transition to adulthood. In contrast, it is inappropriate to limit the self-determination opportunities of adolescents and adults to those typical of young children because of their disability or skills deficits. Some adults with severe disabilities may need others' support for major life decisions, but this support can be offered in ways that respect people's control over their own lives.

Pitfall 5: Ignoring the Social Environment

Learning skills related to self-determination is important, but these skills are meaningless if the students' environments do not allow the use of these skills (Abery & Stancliffe, 1996; Field & Hoffman, 1999). Promoting self-determination also requires creating schools, classrooms, and communities that honor this right for individuals with disabilities. What is the teacher's role in creating this kind of environment? Some of

the recommendations Wehmeyer et al. (1998) offered are to create a positive classroom environment where students appreciate each other and have a voice in their learning community; use peer-mediated and cooperative learning; provide opportunities such as role playing for students to explore cause and effect; provide students with real choices in how, when, and why they learn; and bring students into "participatory ownership" of their learning experience.

An important part of the environment for self-determination is the students' social relationship with others. In contrast, many people are confused about how self-determination and interdependence can co-exist. In a *New York Times* survey, Cherlin (1999) found evidence of this confusion in U.S. society in general. In this survey, more than 75% respondents rated "being able to stand up for yourself" and "being able to communicate your feelings" among the most important personal values. In contrast, only about one third of the respondents valued "being involved in the community" and "having lots of friends." Cherlin noted that not many respondents saw the contradiction that if everyone puts the highest priority on their own interests, then family and community ties will be weakened further. Teachers need to be careful not to encourage a shallow form of self-determination that focuses only on what the student wants, without consideration of others (i.e., selfishness). Students need to develop social skills to have the kind of social relationships they value. Being in a relationship requires responding to the other person's needs and wishes as well as expressing one's own. Students also need opportunities to learn altruism, in which they place someone else's needs and interests above their own. For example, in their self-determination curriculum for students with spina bifada, Denniston and Enlow (1996) encouraged participants to discover ways to contribute to their community as volunteers, in a unit called "There is a larger meaning than self."

Summary

When teachers locate a resource that is intended to help them understand the concept of self-determination, they may first need to determine whether the information focuses on the overall concept (e.g., Wehmeyer, 1999) or specific components of self-determination, such as choice making (e.g. Brown, Belz, Corsi, & Wenig, 1993) or self-advocacy (e.g., Brinckerhoff, 1994). Then, teachers may want to consider whether the information has any of the pitfalls described here. For example, does it consider more than one cultural perspective? Does it address the balance between pursuing personal interests and forming relationships with others? If it focuses on school-aged students, does it address parental involvement? Finally, teachers may want to ask of the resource, "How will I use this new information in describing the concept to others, in reflecting on my philosophy of teaching, in brainstorming new ways to promote self-determination, or in some other way?"

Path 2: Intervention Resources

Understanding the concept of self-determination is important, but teachers may be especially interested in resources that will help them know how to incorporate self-determination in the ongoing educational program. Two types of resources that can be useful to teachers in fulfilling these roles are intervention research (Algozzine et al., 2000) and published curricula (Field et al., 1998a; Test et al., 2000). A third type of resource, often found in books, provides guidelines for applying self-determination principles (Ward & Kohler, 1996; Wehmeyer et al., 1998). In reviewing these resources, we recommend asking the following specific questions to glean information that is useful for planning educational interventions.

Does This Resource Have Research Support?

Data-based research, one of the three types of how-to resources, is especially important because it offers demonstrations of interventions that have met professional standards for experimental control and replicable procedures. As a result, teachers can have some confidence that these procedures have been validated. In contrast, not all published research is of equal quality, and not all procedures are generalizable to students who differ from those in the study (Gall, Borg, & Gall, 1996).

One streamlined approach to reviewing research studies on a topic is to locate a comprehensive literature review. Reviewers have often already done the work of scrutinizing the quality of the research and defining the population to which the work has been applied. In our review (Algozzine et al., 2000), we found that most of the research on supporting self-determination interventions has had moderate to strong effects, depending on whether group or single-subject research designs were applied. We also found that most data-based interventions have focused on self-advocacy for individuals with mild disabilities or choice making for individuals with severe disabilities. An alternative to the use of comprehensive literature review on self-determination is to locate reviews on the specific components of self-determination, such as choice making (Kern et al., 1998), self-advocacy (Merchant & Gajar, 1997), and self-management (Hughes et al., 1991).

Although literature reviews are useful in understanding which procedures have been empirically validated and the overall quality of a body of research, reports of individual studies are more likely to contain the level of detail teachers need to design an intervention. Teachers may sometimes feel overwhelmed by the technical detail of a research-based journal article. One way to glean usable ideas from these resources is to rewrite the methods section of an article as a lesson plan. The teacher can scan the methods section to discover the who, what, how, where, and when of the intervention. If this information seems applicable to students, the

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teacher can write the information in a lesson plan format for current or future use. An example of a lesson plan based on a research study is provided in the Appendix.

Numerous resources also exist that offer how-to guidelines but are not data-based research (e.g., Agran & Wehmeyer, 1999; Longan-Anderson, Seaton, & Dinas, 1995). These practical resources can be especially useful in designing educational interventions when they contain case studies, checklists, and other illustrations. In using these descriptive resources, teachers need to determine whether the recommendations are supported by data-based research. If not, the teacher should consider whether the guidelines are based on sound teaching practices. For example, an author might not cite research to support giving students opportunities to practice skills with descriptive feedback, but classic research may exist to support these practices (Denham & Lieberman, 1980). In contrast, students may not generalize skills across people, settings, and materials unless they are trained to do so (Albin & Horner, 1988; Fox, 1989). Teachers may want to avoid how-to resources that are not based on well-tested principles of learning, unless they feel confident in their skills to modify and strengthen the method (e.g., by adding generalization training).

Published curricula provide a third set of how-to resources. A good beginning point for incorporating self-determination into an educational program is to develop or adopt a curriculum that delineates skills that can be targeted as IEP objectives. Many commercial curricular resources on self-determination provide specific skills to be taught (Field et al., 1998a; see Note). In reviewing these curricula for adoption, we encourage teachers to ask three questions: Is the curriculum based on research, and if not, does it reflect well-proven methodology? Will the curriculum be useful for all students in the teacher's classroom? Does the curriculum describe ways for students to use their self-determination skills in school, community, and home settings? Test et al. (2000) provided more ideas on how to choose a self-determination curriculum.

Most of the published curricula are developed for students with mild or moderate disabilities who have reading and conversation skills. For students with more severe disabilities, teachers may need to develop a personalized curriculum guide by focusing on the specific responses the student uses to make choices, set goals, solve problems, and so on. Several teacher resources (e.g., Field & Hoffman, 1996; Field et al., 1998a; Gillespie & Turnbull, 1983; Longan-Anderson et al., 1995) provide ideas about ways to enhance self-determination without the use of a specific curriculum.

How Can I Use This Resource in Developing IEPs?

The IEP helps teachers prioritize students' specially designed instruction. Agran et al. (1999) found that even though teachers were focusing on self-determination in their classrooms, these skills were not written into the students' IEPs. By including self-determination skills on the IEP and tracking student progress, teachers are most likely to determine whether these goals are being achieved. Resources on self-determination interventions—whether they be research studies, published curricula, or other descriptive materials such as books—offer many ideas that can be translated into IEP objectives on self-determination. Using a published curriculum on self-determination may be the easiest approach to identifying skills to be developed into IEP objectives. Some of these curricula have resources for assessing students' skills (e.g., Martin, Marshall, Maxson & Jerman, 1996). Also, some resources specifically focus on self-determination assessment. The Arc's Self-Determination Scale (Wehmeyer & Kelchner, 1995a) can be used to determine skill needs with students who are able to respond to interview questions. For students with more severe disabilities, Browder and Lohrmann-O'Rourke (2001) created checklists of self-determination skills to consider in planning the IEP.

Some resources describe how to use the IEP process itself to promote self-determination. For example, Van Reusen, Deshler, and Schumaker (1989) demonstrated how to teach students with learning disabilities to participate in their IEP meetings by using a five-step strategy called IPARS (inventory, provide information, ask questions, respond to questions, summarize IEP goals). *Self-Directed IEP* (Martin et al., 1996), part of the Choicemaker Curriculum, includes well-delineated lesson plans for teaching students to lead their own IEP meetings. It also includes videotapes to use in training students to set goals and lead their own meetings. Teachers of students with severe disabilities can seek resources that offer ideas for nonverbal students to participate in their IEP meetings (e.g., Browder & Lohrmann-O'Rourke, 2001). Resources on preference assessment (Kearney & McKnight, 1997; Lohrmann-O'Rourke, Browder, & Brown, 2000) and person-centered planning (Malette et al., 1992; Miner & Bates, 1997) are two options for making the IEP meeting student centered, even if it cannot be student led.

What Teaching Strategies Are Described?

After the IEP is developed, teachers need instructional strategies to promote self-determination skills. Earlier we illustrated how to translate a research study into a lesson plan (see the Appendix). Teachers might also want to review resources to develop a list of strategies that can be used with different students and skills. In our review, we found several methods that have been used to teach self-determination (Algozzine et al., 2000). One method that is frequently used is small-group instruction with role-play practice. For example, in a study by Abery, Rudrud, Arndt, Schauben, and Eggebeen (1995), students practiced skills such as personal advocacy in a small-group session with adult mentors with disabilities and other instructors. Instruction and practice opportunities can be enhanced by using videotape or slide examples. In the

videotape for the curriculum *TAKE CHARGE* (Powers, 1998), real students described their strategies for making changes in their lives. The students in these case studies varied widely in their life experiences and included a young woman in a wheelchair who tried a ropes course to gain self-confidence and a young man who made new friends to break a pattern of illegal activity. Some research studies (e.g., Balcazar, Fawcett, & Seekins, 1991) and curricula (e.g., Wehmeyer & Kelchner, 1995b) include the use of a training manual so that students read, as well as hear, instructions. Manuals also make it possible for students to use self-directed learning or proceed at their own pace.

The challenge with using classroom instruction, even with videotape or other simulations, is that students may not generalize their skills to real-life settings. An instructional strategy that addresses generalization is direct instruction in the context of the students' typical activities and contexts. For example, Bambara and Ager (1992) taught adults with moderate developmental disabilities to self-schedule leisure activities that they then pursued in their home and local communities. Foxx, Faw, Taylor, Davis, and Fulia (1993) taught adults with developmental disabilities to apply new self-advocacy skills during actual group home tours. Hughes and Rusch (1989) created opportunities for students to learn problem solving while they were at their job sites. When using this *in vivo* approach, the teacher often must find or create a teachable moment (e.g., hold a meeting to talk about the schedule, set up a tour, create minor job problems such as missing materials). Using these teachable moments, the teacher can prompt the student to use specific self-determination skills such as goal setting or problem solving and can give feedback for each response (e.g., praise or correction). Over time, the teacher can fade this systematic prompting and feedback so that the student can use the new self-determination skills without assistance.

In reviewing resources on self-determination, teachers might want to create a chart of usable teaching ideas. Some examples are given below:

- Does the resource suggest ways of creating teachable moments in real-life settings?
- What types of prompts and feedback are used?
- If classroom instruction is used, is a manual already available? Would this manual need to be adapted for some students?
- Are commercial videos available? If not, what types of scenes are described in print that could be replicated in teacher-made videos?

One important point to consider is that most of the research and curricula on self-determination have been developed for individuals with mental retardation and learning disabilities (Algozzine et al., 2000). Teachers of students with autism, emotional disturbance, and sensory impairments may find that further accommodations are needed in order to apply current interventions. For example, students may need more structure for the teaching sessions, motivational strategies to encourage participation, and adaptations in the materials (e.g., taped manual, close-captioned videos).

How Can I Create an Environment That Promotes Self-Determination?

Self-determination is more than a set of teachable skills. An important aspect of this something more is functioning in an environment that promotes self-determination. School environments that include special education programs have not traditionally had this focus. Students have often been left out of school decisions, including those about their own educational programs. An important question to ask in searching the how-to resources on self-determination is whether they offer guidance on only teaching skills or whether they also provide help in promoting self-determination through environmental supports.

One form of environmental support is to offer students ways to become more responsible for what occurs in the school and classroom environment. An option for encouraging greater responsibility is to give students choices related to their school routines. Research studies on promoting choice making demonstrate that giving students with disabilities choices can encourage appropriate behavior and task completion (Kern et al., 1998). Teachers may also find ideas for increasing student autonomy in their daily routine in resources on decision making and problem solving. For example, in their research, Hughes, Hugo, and Blatt (1996) embedded problems in a daily living activity that would create the need for the participants to practice problem-solving skills. Teachers may also be able to use resources that offer excellent models for teaching problem solving and decision making in simulations and then determine ways to incorporate these skills into their daily class routines. For example, Browning and Nave (1993) demonstrated how to teach high school students with learning disabilities and mental retardation decision making and problem solving through the use of slide and videotape scenarios. The teacher might create a summary poster of these strategies and review them when real problems in the classroom, such as not having enough materials for an activity, lead to teachable moments. Or the teacher might provide ways for the students to use their decision-making skills. For example, if new computer equipment is going to be purchased, students can be involved in determining the criteria to use in comparison shopping and in developing the rules to regulate the equipment's use.

A second way to create an environment that encourages self-determination is to involve students in their own learn-

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ing. Teachers might want to locate resources that provide ideas for teaching students to direct their own learning (Agran, 1997), manage their own behavior (Brigham, 1989), or use self-instruction (Hughes & Agran, 1993). For example, if a student is learning to use new computer software, can he or she learn to do so by following a picture checklist rather than relying on teacher instruction?

A third option to create school environments that promote self-determination is to honor self-advocacy. When students with disabilities request change or protest certain policies, administrative responsiveness can help students learn that their opinions count. Students who protest in inappropriate ways (e.g., through aggression) can be taught self-advocacy skills such as nonviolent confrontation, conflict resolution, and how to make written complaints. Resources that describe how students have applied self-advocacy in real-life settings can be especially useful for planning this support. For example, Durlak, Rose, and Bursuck (1994) had students practice self-advocacy skills such as describing their disabilities and stating the type of assistance they needed in real-life settings after they mastered the strategies in classroom training.

Does This Resource Make Me a More Self-Determined Teacher?

Field et al. (1998b) proposed that teachers are best able to model and teach self-determination when they themselves are self-determined. Sometimes when reviewing how-to resources, teachers may gain information that is personally useful. Being self-determined as a teacher may require self-advocacy to have flexibility and control over curricular content and the school environment. Learning a strategy such as the one described in the curriculum by Van Reusen, Bos, Schumaker, and Deshler (1994) for self-advocacy may be as useful to teachers as to their students. Administrative support that encourages teachers to set goals, make decisions, and solve problems in their schools can encourage teacher self-determination. Teachers may find that they want to study and apply a resource on problem solving and decision making like that provided by Wehmeyer and Kelchner (1995b) to strengthen their own skills, even if it is not applicable to their students (e.g., the students do not have the communication and reading skills needed to use these materials). Teachers who themselves have few choices and minimal control over their classroom environments may find it especially difficult to relinquish control to students. Just like students, teachers need both self-determination skills and environments that promote using these skills. For some teachers, the map to use in reviewing self-determination resources may be most useful in developing the rationale needed to negotiate change in their school settings (e.g., as found in the conceptual literature) and in honing their own skills as role models for students on how to be self-determining.

Summary

This second path through the self-determination literature focuses on finding materials that teachers can use for planning interventions. These may include resources for developing the IEP, specific teaching strategies, curricula, ideas for environmental supports, and guidelines for personal development of self-determination skills. Through this second path, teachers enhance their ability to promote self-determination in school and other settings.

Making the Most of These Resources

We have provided a map for reviewing the self-determination literature that can be useful both for professional development and planning a student's educational programs. The first path, which leads to understanding the concept of self-determination and its components, leads through the many resources that discuss this concept, its components, or its impact in the lives of individuals with disabilities. In following this path, teachers need to be especially careful to view self-determination in the broader context of building interpersonal relationships with people of different cultures and ability levels and with parents. If this broader social context is not considered, pitfalls in understanding can occur, such as assuming that self-determination means siding with students against their parents, failing to teach students to be altruistic, or telling people what adult outcomes they should value.

The second path through the resources on self-determination leads to knowing how to promote self-determination in the educational environment. This path includes intervention research, published curricula, and other how-to resources. In using these resources, teachers need to be careful to determine whether recommendations are based on research and sound learning principles. Teachers can also use these resources for writing IEP objectives and creating environmental supports. Teachers can also review these materials for creating their own personal and professional development plans to be self-determined educators. ■

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NOTE

A comprehensive listing of self-determination curricula can be obtained from the Self-Determination Synthesis Project by writing to the primary author or via the project Web site, www.uncc.edu/sdsp.

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Appendix: An Example of Translating a Data-Based Research Study on Self-Determination into a Lesson Plan

(Source: Sievert, Cuvo, & Davis, 1988).

Objective: To learn to discriminate four general categories of legal rights to which people with disabilities are entitled, as well as conditions they must meet to obtain certain rights.

Setting and Materials: Classroom with an overhead projector, screen, and transparencies.

Teaching Activities: Presentation of three personal rights and their conditions via transparency:

1. Right to have and raise children
2. Right to vote
3. Right to get a driver's license

Direct Instruction:

1. *Focus and Review*—Review the other three conditional rights in the personal rights category:
   (a) Right to marry
   (b) Right to show physical affection to a person of the opposite sex
   (c) Right to use birth control
2. *Opportunities to Respond*—Instructor defines and presents conditions for each new right via transparency. Participants take turns stating those conditions after the cues from the overhead transparency are removed.
3. *Prompting*—If a participant responds incorrectly or fails to respond within 10 seconds, the instructor states a condition of the right and then asks the participant to name a condition.
4. *Feedback Procedures*—Verbal praise provided for correct responses.

Individual Practice: Participants verbally state each right and their conditions.

Method of Evaluation: In order to indicate successful learning of the rights and their conditions, the following number of correct condition responses should be made for each following personal right:

1. Right to have and raise children (3 consecutively correct responses)
2. Right to vote (4 consecutively correct responses)
3. Right to get a driver's license (4 consecutively correct responses)

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Choosing a Self-Determination Curriculum

PLAN *For the Future*

David W. Test • Meagan Karvonen
Wendy M. Wood • Diane Browder • Bob Algozzine

Self-determination. In almost every special education publication, conference, or inservice workshop, someone mentions "self-determination." The popularity of this term is not surprising, considering the urgent need to improve postsecondary outcomes for students with disabilities (see box, "What Does the Literature Say About Self-Determination?"). Self-determination is certainly a factor in the success of all students.

This article describes a project to help educators improve the self-determination of students with disabilities. We conducted this project with support from the U.S. Department of Education, Office of Special Education Programs, to gather, evaluate, and disseminate information about curriculum/assessment materials and strategies on promoting self-determination. In addition, we suggest a process other educators can use to select materials and curricula.

The Self-Determination Synthesis Project

The Self-Determination Synthesis Project (SDSP) has the objective of synthesizing and disseminating the knowledge base and best practices related to self-determination for students with disabilities. To this end, the purpose of the project was to improve, expand, and accelerate the use of this knowledge by the professionals who serve children and youth with disabilities; parents who rear, educate, and support their children with disabilities; and the students themselves.

As part of the SDSP effort, we have conducted a comprehensive literature review of self-determination intervention research, visited school systems that exhibited exemplary self-determination outcomes, and gathered and catalogued published self-determination curricula. For more information on our exemplary sites and literature review visit our Web site at http://www.uncc.edu/sdsp.

Existing Self-Determination Curricula

To identify existing self-determination curricula, we reviewed the literature, conducted Web searches, asked experts in the area, and advertised in newsletters and at conferences. As a result, we found 60 curricula designed to promote self-determination skills. Table 1 shows a sampling of these curricula; other reviews are available from the authors (see Table 1). We compiled the name of each curriculum, the publisher, telephone number, and cost information for each curriculum. Further, we identified, for each curriculum, which of the eight self-determination components the curriculum included, based on the most commonly identified components of self-determination found in the literature (e.g., Field & Hoffman 1994; Mithaug, Campeau, & Wolman, 1992; Ward, 1988; Wehmeyer, 1996). The eight curricular components are as follows:

- Choice/decision-making.
- Goal setting/attainment.
- Problem-solving.
- Self-evaluation, observation, and reinforcement.
- Self-advocacy.
- Inclusion of student-directed individualized education programs (IEP).
- Relationships with others.
- Self-awareness.

Finally, we listed the materials included in each curriculum and the appropriate student audience identified by the author, and noted whether the curriculum had been field-tested.

Choosing the Right Curriculum

We found many curricula that address the different components of self-determination. Some curricula teach specific skills, such as decision making or goal setting. Others include

We found 60 curricula designed to promote self-determination skills.

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Table 1. A Sample of Self-Determination Curricula and Components
(For a complete listing, see http://www.unec.edu/edsp)

TITLE	Product Info	Choice/ Decision Making	Goal Setting/ Attainment	Problem Solving	Self Eval	Self Advocacy	IEP Plan	Relationships w/Others	Self Awareness	Contents	Audience
Next S.T.E.P.: Student transition and educational planning	Pro-Ed (800) 897-3202 Price: $144	☑ ☑	☑	☐	☑	☐	☑	☐	☑	Video Teacher manual Student workbook	Transition aged students with and without disabilities, and students at-risk
		Other: Adjustment, Employment, Education, Housing, Daily living, Community							Field Test ☑		
Self-advocacy strategy for education and transition planning	Edge Enterprises, Inc. (785) 749-1473 Price: $15	☑ ☑	☐	☐	☐	☑	☑	☐	☑	Instructor's manual	Primary and secondary students with mild disabilities, and high risk students
		Other: Employment, Education, Housing, Daily living, Personal, Community							Field Test ☑		
Take action: Making goals happen (Choicemaker)	Sopris West Inc. (800) 547-6747 Price: $95	☑ ☑	☑	☐	☑	☐	☐	☐	☐	Teacher's manual Reproducible lesson masters Video	Not specified
		Other: Adjustment, Employment, Education, Housing, Daily living, Personal, Community							Field Test ☑		
TAKE CHARGE for the future	OHSU Center on Self-Determination (503) 232-9154 Price: $45	☑ ☑	☑	☐	☑	☑	☑	☐	☑	Student guide Companion guide Parent guide Class guide	Sophomores and juniors with disabilities
		Other: Adjustment, Employment, Education, Housing, Daily living, Personal, Community							Field Test ☑		
Whose future is it anyway? A student directed transition process	The Arc National Headquarters (888) 368-8009 Price: $20	☑ ☑	☑	☐	☑	☑	☑	☐	☑	Student manual with coach's guide	Middle school and transition aged students with mild to moderate cognitive, developmental, or learning disabilities
		Other: Employment, Education, Housing, Daily living, Personal, Recreation, Community							Field Test ☑		

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Promoting self-determination also requires training those without disabilities to encourage and respect the decisions made by self-determining individuals with disabilities.

content intended to increase students' knowledge about their disabilities or about disability rights. Still others include learning approaches or processes by which students take greater ownership of their IEP planning process. With the variety of materials available, how do teachers know what will be most effective for use with their students? We suggest that the process begin with a careful review of the sampling in Table 1 to become familiar with the variety of resources that are available. In addition, you might want to gather other published descriptions/reviews of self-determination curriculum (see Field, 1996; Field et al., 1998).

Figure 1 shows a curriculum materials review checklist that we have found useful when deciding what curriculum might be most appropriate. The information included in Figure 1 is summarized in the following set of questions:

Does the intended audience match my students?

Are the materials age-appropriate? Are they designed for use with students who have mild, moderate, or severe disabilities? Some materials that may have been originally designed for use with a specific group of students may have to be modified for use with other groups (including students without disabilities). Check the introductory section of the teacher's manual to see what the authors say.

Do the skills covered in this curriculum meet my students' needs?

You may find that your students are perfectly capable of setting goals, but they do not know enough about their rights under current legislation such as the Individuals with Disabilities Education Act or the Americans with Disabilities Act to be able to ask for reasonable accommodations in their postsecondary setting, or maybe they need a better understanding of how to run their IEP meeting. In some cases, the introduction or overview section of the teacher's manual will state the goals of the curriculum. For example, the Take Action curriculum states: "Students learn to act

What Does the Literature Say About Self-Determination?

Here are the current trends in self-determination research:

- Current research has referred to self-determination as the ultimate goal of education (Halloran, 1993).
- Research has demonstrated a positive relationship between self-determination and improved postsecondary outcomes. These outcomes include a higher rate of employment and higher wages 1 year after graduation for students with mild mental retardation and learning disabilities (Wehmeyer & Schwartz, 1997).
- Classroom teachers are recognizing that self-determination is an important skill to teach students (Agran, Snow, & Swaner, 1999; Wehmeyer, Agran, & Hughes, 2000).

Definition of Self-Determination. Beginning with the "normalization" movement in the early 1970s, many researchers, educators, and self-advocates have developed definitions of self-determination. According to a consensus definition by Field, Martin, Miller, Ward, and Wehmeyer, 1998, self-determination is

> a combination of skills, knowledge, and beliefs that enable a person to engage in goal-directed, self-regulated, autonomous behavior. An understanding of one's strengths and limitations together with a belief in oneself as capable and effective are essential to self-determination. When acting on the basis of these skills and attitudes, individuals have greater ability to take control of their lives and assume the role of successful adults. (p. 2)

Conceptual models of self-determination have included knowing and valuing oneself (Field & Hoffman, 1994); skills and knowledge on topics such as choice and decision making, goal setting and attainment, problem-solving, and self-advocacy (Martin & Marshall, 1995; Wehmeyer, 1999); and recognition of the environment's role in supporting self-determination for people with disabilities (Abery & Stancliffe, 1996).

Need for Instruction in Self-Determination. Unfortunately, so far all the rhetoric, research, and recognition is not being translated into classroom instruction. For example, Agran et al. (1999) found that whereas over 75% of middle and secondary teachers rated self-determination skills as a high priority, 55% indicated that self-determination goals were either not included in their students' IEPs or only in some students' IEPs. This finding is supported by: (a) Wehmeyer and Schwartz (1998) who found no self-determination skills in 895 IEP transition goals; and (b) Wehmeyer et al. (2000) who found 31% of secondary-level teachers reported writing no self-determination goals in student IEPs, 47% reported writing self-determination IEP goals for some students, and only 22% reported writing self-determination IEP goals for all students.

Although many explanations may exist for why self-determination skills are not included in student IEPs, we believe a major reason is that teachers are unaware of what resources exist to help with the task. This is supported by Wehmeyer et al. (2000), who reported that 41% of teachers with secondary-aged students indicated that they did not have sufficient training or information on teaching self-determination, and 17% were unaware of curriculum/assessment materials/strategies.

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Figure 1. Curriculum Materials Review Checklist

CURRICULUM MATERIALS REVIEW CHECKLIST

Title: _____

Author: _____

Publisher's name contact/information: _____

Date of publication: _____ Cost of materials: _____

For what type of student is the curriculum designed (e.g., age, disability)?

_____

What types of materials are included (e.g., instructor manual, student workbook, video, alternate formats)

_____

Do the components of self-determination match my students' needs

Students Needs	Included in Curriculum		Comments
Choice-making	YES	NO	
Decision-making	YES	NO	
Goal setting/attainment	YES	NO	
Problem solving	YES	NO	
Self-evaluation	YES	NO	
Self-advocacy	YES	NO	
Self-awareness	YES	NO	
Person-centered IEP Planning	YES	NO	
Relationship with Others	YES	NO	
Other: _____			

Rate each of the following on a scale from 1 (Excellent) to 4 (Poor) based on your students and yourself as a teacher.

	1 Excellent	2 Good	3 Fair	4 Poor	5 Can't tell
How easy is it to get materials?					
How well do the cost of materials fit my budget?					
Are the materials available in alternative formats?					
Are support materials provided?					
Are the instructions "teacher friendly"?					
Are the prerequisite skills delineated?					
Are there sufficient opportunities for practice?					
How relevant/motivating is the content for my students?					
How age-appropriate is the content for my students?					
How well do the materials match the academic level of my students?					
Is a system for assessing student progress included?					
Is the content based on research/field testing?					
How appealing are the videos and other materials?					
How well does the instructional time (number and length of sessions) fit with my schedule?					
Additional Comments:					

on their plans, evaluate their plan and results, and make any necessary adjustments" (Marshall, et al., 1999, p. 9). Do the goals of the curriculum match your instructional objectives?

Does the curriculum require prerequisite skills?

Some curricula may require relatively sophisticated reading levels, or assume that the students will already understand how to make choices for themselves. Both the teacher's manual and the student activities will give you a sense of what skill level is required for students to begin using the curriculum.

What types of materials are provided?

If you work with students who are visually or hearing impaired, does the curriculum have audiotape, closed-captioned, or Braille formats? Are the materials durable and easy to use? Do they provide enough variety or hold the interest of students? Is an assessment tool included?

How easy is it to follow the lesson plans?

Are the objectives for each lesson clearly stated? Is it easy to tell what materials you will need and how much time each lesson will require? Is the text formatted so you can easily find prompts? Is there flexibility in the order of the lesson plans?

Were the materials field-tested?

Has anyone collected information about whether students who used this curriculum improved their self-determination knowledge, skills, or behaviors? Just because someone is selling a product doesn't mean that it works. Many of the curricula we listed have been field-tested, but not all of them report the results of those tests. Sometimes authors report field-test results in a journal article or book chapter instead of the manual.

What are the time and financial obligations associated with this curriculum?

The costs of materials sampled in Table 1 range from nothing to more than $1,000. The time commitments also vary extensively. Is the financial cost of the curriculum appropriate to the length of instructional time you have available to teach the skills?

Important questions include: Are the materials age-appropriate? Are they designed for use with students who have mild, moderate, or severe disabilities? Do they provide enough variety or hold the interest of students? Is an assessment tool included?

Sample Curricula

We have selected five curricula which have published research documenting their effectiveness to describe in more detail here.

The Self-Advocacy Strategy for Education and Transition Planning

This curriculum was developed using a modified version of the Strategies Intervention Model (Ellis, Deshler, Lenz, Schumaker, & Clark, 1991) at the University of Kansas. The Self-Advocacy Strategy is a motivation strategy that teachers can use to help students prepare for any type of educational or transition planning meeting. The strategy, called I-PLAN, consists of five steps:

- *I*nventory your strengths, areas to improve, goals, needed accommodations, and choices for learning.
- *P*rovide your inventory information.
- *L*isten and respond.
- *A*sk questions.
- *N*ame your goals.

The instructor's manual contains step-by-step lesson plans and cue cards that you can use as transparencies, handouts, or worksheets. Finally, the Self-Advocacy Strategy has been field-tested with students with learning disabilities ages 14-21 (Van Reusen & Bos, 1994; Van Reusen, Deshler, & Schumaker, 1989).

Next S.T.E.P. (Student Transition and Education Planning)

Developed by Andrew Halpern and his colleagues at the University of Oregon the purpose of the Next S.T.E.P. curriculum is to teach high school students how to begin planning for their lives after they leave school. Materials include a teacher's manual with lesson plans and necessary forms, a student workbook, and a videotape that contains an overview of the curriculum, as well as vignettes that address important issues from specific lessons. The Next S.T.E.P. curriculum has been field-tested with students with mild mental retardation ages 14-19 (Zhang, 2000).

Take Action: Making Goals Happen

Take Action is the last of the three strands of the ChoiceMaker Self Determination Curriculum designed by Laura Huber Marshall and Jim Martin and their colleagues at the University of Colorado at Colorado Springs. The first two strands are Choosing Goals and Expressing Goals (or Self-Directed IEP). Take Action is designed to provide teachers with a set of lessons to teach students a generalizable process for attaining their goals. Materials include a teacher's manual with reproducible lesson masters and a student instructional video. Take Action was field-tested with six students with mild or moderate mental retardation ages 16 to 18 (Jerman, Martin, Marshall, & Sale 2000). Results indicated that all six students accomplished all goals set during maintenance.

TAKE CHARGE for the Future

This multicomponent curriculum was designed by Laurie Powers and her col

41% of teachers with secondary-aged students indicated that they did not have sufficient training or information on teaching self-determination.

leagues at Oregon Health Sciences University to assist students to become more involved in their transition planning process. The four components are coaching, mentorship, parent support,

For more information on our exemplary sites and literature review visit our World Wide Web site at http:/www.uncc.edu/sdsp.

and staff training. Materials include a student guide, companion guide, parent guide, and class guide. TAKE CHARGE for the Future was field-tested with 43 students with specific learning disabilities, emotional disabilities, other health impairments, or orthopedic impairments ages 14-17 years (Powers, Turner, Matuszewski, Wilson, & Phillips, in press). Results indicated significant differences in education planning, transition awareness, family empowerment, and student participation in transition planning.

Whose Future Is It Anyway? A Student-Directed Transition Planning Process

Developed by Michael Wehmeyer and his colleagues at the Arc National Headquarters, this curriculum is designed for middle school and transition-aged students with mild or moderate disabilities. The curriculum consists of a student manual, which includes a cut-out Coach's Guide. While the manual is written for students to read and work through at their own pace, the teacher's role is three part:

- To facilitate student success.
- To teach information requested by students.
- To advocate for a successful transition for students.

This curriculum was field-tested with 53 students with mild or moderate mental retardation ages 15-21 (Wehmeyer & Lawrence, 1995). Results indicate significant increases in self-efficacy and outcome expectancy measures.

Final Thoughts

Self-determination develops over the life span as students gain self-awareness and learn to make increasingly important decisions about their lives with the guidance of their parents, teachers, and other adult mentors. Because traditionally other people (professionals) have made most major life decisions for them, students with disabilities often require instruction on the skills needed to be self-determining citizens. Promoting self-determination also requires training those without disabilities to encourage and respect the decisions made by self-determining individuals with disabilities.

Fortunately, many self-determination curricula are available from which to choose. We hope that the suggestions provided in this article will help you decide which curriculum will best promote self-determination for your students.

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Effects of Interventions to Promote Self-Determination for Individuals With Disabilities

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Self-determination, the combination of skills, knowledge, and beliefs that enable a person to engage in goal-directed, self-regulated, autonomous behavior, has become an important part of special education and related services for people with disabilities. Research on the outcomes of self-determination interventions has been sparse. In this study, we conducted a comprehensive review of literature and used quantitative methods of meta-analysis to investigate what self-determination interventions have been studied, what groups of individuals with disabilities have been taught self-determination, and what levels of outcomes have been achieved using self-determination interventions. Fifty-one studies were identified that intervened to promote one or more components of self-determination; 22 were included in meta-analyses. The median effect size across 100 group intervention comparisons (contained in 9 studies) was 1.38. In contrast, 13 single subject studies included 18 interventions and produced a median percentage of nonoverlapping data (PND) of 95% with a range of 64% to 100%. Seven of the interventions had a PND of 100%, suggesting strong effects. Although all components of self-determination were reflected in this research, most focused on teaching choice making to individuals with moderate and severe mental retardation or self-advocacy to individuals with learning disabilities or mild mental retardation. The outcomes are discussed regarding the need to demonstrate that self-determination can be taught and learned, and can make a difference in the lives of individuals with disabilities.

The self-determination movement is among the most important current issues in the fields of special education and rehabilitation today. The right to make one's own decisions about life and future is viewed as an inalienable right by American adults without disabilities and yet has only recently been recognized for adults with disabilities (Wehmeyer, Palmer, Agran, Mithaug, & Martin, 2000). Evidence of this belated recognition is present in key pieces of disability legislation which have been passed or reauthorized since 1990 including the Americans With Disabilities Act of 1990, the Individuals with Disabilities Education Act, 1990 and 1997, and the Reha-

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bilitation Act Amendments of 1992 (Ysseldyke, Algozzine, & Thurlow, 2000). These laws have all stressed the right of individuals with disabilities to choose where and with whom they want to live, what jobs they want, and by what means they want to achieve their personal goals and dreams.

The U.S. Department of Education also has identified self-determination as an important outcome of the educational process for children and adults with disabilities and has committed significant resources to promote this concept by funding initiatives on self-determination (Wehmeyer & Schwartz, 1998a; Wehmeyer & Ward, 1995). The Rehabilitation Services Administration has also committed agency resources to increasing consumer choice by funding seven choice demonstration projects following the passage of the 1992 Rehabilitation Act Amendments. Choice and self-determination are also encouraged for funding within the grants program of the Administration on Developmental Disabilities (ADD).

Self-determination might be viewed as the culmination of the normalization and deinstitutionalization movements that started in the early 1970s. Advocates have been trying to restore the rights of U.S. citizenship to individuals with disabilities since the inception of the deinstitutionalization movement with an ongoing succession of values-driven movements and paradigm shifts (e.g., from developmental to chronologically age-appropriate functional life skills instruction; from institutionalization to community integration and inclusion; from segregated sheltered employment to supported employment in integrated jobs for real pay). Because of our country's history of allowing other people (typically, helping professionals) to make most major life decisions for people with disabilities, actualizing the concept of self-determination now requires spending considerable effort to train children, youth, and adults with disabilities on how to be self-determining citizens. At the same time, citizens without disabilities need training to respect and honor the choices and decisions of individuals with disabilities. Therefore, actualizing self-determination for citizens with disabilities requires a two-way paradigm shift, which involves both teaching and encouraging citizens with disabilities to self-determine, and teaching citizens without disabilities to honor their choices and decisions.

The professional literature on the topic of self-determination has been growing rapidly in the last decade. Much of this writing has addressed the why of self-determination, including the rationale that it is a basic civil right, a legislative mandate, and a right to which citizens with disabilities are entitled and have demanded (Brotherson, Cook, Cunconan-Lahr, & Wehmeyer, 1995; Martin, Marshall, & Maxson, 1993; Sands & Wehmeyer, 1996; Ward, 1996; Wehmeyer & Ward, 1995). Additional research has bolstered the rationale for self-determination by demonstrating that people with self-determination skills have a better quality of life (Wehmeyer & Schwartz, 1998b), and that positive outcomes are associated with being self-determined (Wehmeyer & Schwartz, 1997). The parameters of self-determination also have been thoroughly examined through the development of definitions, conceptual models (Abery, Rudrud, Arndt, Schauben, & Eggebeen, 1995; Deci, 1975; Field, 1996; Martin & Marshall, 1995; Wehmeyer, 1992; Wehmeyer, Palmer, Agran, Mithaug, & Martin, 2000), and the categorization of self-determination skills and behaviors (Field & Hoffman, 1994; Wehmeyer, Kelchner, & Richards, 1996).

The population of focus in most of the self-determination literature is transition-aged students with disabilities (e.g., Martin & Marshall, 1995; Wehmeyer & Ward, 1995; Wehmeyer, Agran, & Hughes, 1998). Some articles have focused on the needs of specific disability categories including students with learning disabilities

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(Field, 1996), students with mental retardation (Wehmeyer, 1992; Wehmeyer et al., 1996), students with severe disabilities (Brown, Gothelf, Guess, & Lehr, 1998; Schloss, Alper, & Jayne, 1993;), students with autism (Field & Hoffman, 1999), and young children (Brown & Cohen, 1996). A series of projects currently funded by the Robert Wood Johnson Foundation is focusing on self-determination for adults with disabilities.

The literature also includes many recommended strategies for promoting self-determination. Some of the most commonly suggested interventions are student involvement in Individualized Education Plan (IEP) planning (Gillespie & Turnbull, 1983; Martin et al., 1993; Van Reusen & Bos, 1994), transition planning (Wehmeyer & Lawrence, 1995; Wehmeyer & Schwartz, 1997), person centered planning practices (Vandercook, York, & Forest, 1989), and directly teaching self-determination skills (Hoffman & Field, 1995; Wehmeyer et al., 1998; West, Taymans, & Gopal, 1997).

Although this overall literature on self-determination is extensive, it is not necessarily empirically based. As part of a national synthesis project on self-determination, we located more than 450 published articles on this topic (Wood, Test, Browder, Algozzine, & Karvonen, 1999). Most of the professional writing on self-determination has been devoted to position papers and conceptual work addressing why specific skills for making their own decisions should be taught to individuals with disabilities and how it should happen. Although a few studies have explored the degree to which self-determination strategies have or have not been adopted by the field in the form of curricular changes and self-determination related IEP goals (Wehmeyer & Schwartz, 1998b; Wehmeyer, Agran, & Hughes, 2000), research on the outcomes of self-determination interventions has been sparse. The purpose of this review is to summarize the research on self-determination across all disability groups, to add to the knowledge base of specific practices that have been empirically validated for promoting self-determination among people with disabilities.

Conceptual Framework

Before presenting a review of the self-determination literature, it is essential to describe the conceptual framework used for this synthesis. The growing literature on self-determination provides an ever-increasing number of conceptualizations that unfortunately makes an easily operationalized definition more difficult to provide. For example, some researchers (and some definitions given) treat self-determination as an intervention (e.g., Keller, Givner, & Ferrell, 1999; Siegel, 1998), whereas others treat it as an outcome (e.g., Abery & Zajac, 1996; Field & Hoffman, 1994; Serna & Lau-Smith, 1995; Wehmeyer, 1996). A synthesis definition of self-determination created by experts in the field and selected by the authors to guide this review is "a combination of skills, knowledge, and beliefs that enable a person to engage in goal-directed, self-regulated, autonomous behavior" (Field, Martin, Miller, Ward, & Wehmeyer, 1998, p. 2). The perspective that views self-determination as an outcome including knowledge, attitudes, and behaviors (Abery & Zajac, 1996; Field & Hoffman, 1994; Serna & Lau-Smith, 1995) is best represented by Wehmeyer (1996):

> [F]or purposes of education and rehabilitation, self-determination is 1) best defined in relationship to characteristics of a person's behavior; 2) viewed as an educational outcome; and 3) achieved through lifelong learning, opportunities, and experiences (p. 22).

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Implied within this view is the perspective that self-determining individuals will:

a. Choose goals based on an understanding of their own interests, skills, and limits.
b. Express their goals to help build support for them.
c. Plan to attain their goals.
d. Evaluate their plan and actions toward achieving it.
e. Adjust their goal, plan, and actions to achieve continued self-determination (Martin, O'Brien, & Wray, 1999–2000).

In this review, we were interested in the self-determination outcomes achieved through intervention research. These outcomes may have included the demonstration of newly acquired self-determination skills or broader quality-of-life indicators. Because of this emphasis on outcomes, we did not limit our analysis to teaching interventions, but also considered work that promoted self-determination in other ways (e.g., person-centered planning or other environmental arrangements).

Self-Determination Components Included in This Review

Given our focus on self-determination as an outcome, we then defined the specific components of self-determination to be identified in the intervention literature. To define the components, we reviewed definitions of self-determination published between 1972 and 2000 and listed all that were identified by two or more sources. Concurrently, we examined conceptual models of self-determination and concluded that Wehmeyer's (1999) model contained the best definitional concepts and was based on research on these concepts (Wehmeyer et al., 1996). Three concepts from Wehmeyer's (1999) model were excluded from this study. Self-management and independent living skills were excluded because of the broad base of existing research, including major literature reviews, on these subjects (e.g., Quinn, Kavale, Mathur, Rutherford, & Forness, 1999; Snell, 1997). Incorporating either of these concepts in the current review would have overemphasized their importance in the self-determination literature because of the proliferation of research on these topics. A third component, internal locus of control, was excluded from this study owing to concerns about construct validity (Lefcourt, 1984). The remaining components included in this study were (a) choice making; (b) decision making; (c) problem solving; (d) goal setting and attainment; (e) self-advocacy; (f) self-efficacy; (g) self-awareness and understanding; and (h) self-observation, evaluation, and reinforcement. Based on the review of definitions and focus on self-determination as an outcome, (a) person-centered planning, (b) preference assessment, and (c) relationships with others were also considered in finding and coding the literature.

Statement of Problem and Research Questions

Although literature reviews exist on specific concepts of self-determination such as self-advocacy (Merchant & Gajar, 1997), self-management (Nelson, Smith, Young, & Dodd, 1991), and choice making (Kern, Vorndran, Hilt, Ringdahl, Adelman, & Dunlap, 1998), no systematic analysis of research on the overall effects of self-determination has been completed. The purpose of this study was to integrate and analyze research on efforts to teach self-determination skills to individuals with disabilities. The following research questions were of interest:

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1. What interventions have been studied to promote self-determination?
2. What groups of individuals with disabilities have been taught strategies to promote self-determination?
3. What outcomes of interventions to promote self-determination have been demonstrated?

Method

Narrative reviews have traditionally been used by researchers to integrate empirical studies. These reviews sometimes lack focus and have been criticized as limited and biased, and quantitative methods have often been used to supplement the findings from these conventional reviews (Bangert-Drowns, 1986; Light & Pillemer, 1984). Meta-analysis is a widely accepted quantitative method for systematically combining outcomes in efforts to provide a comprehensive evaluation of a domain of interest (Bangert-Drowns, 1986; Glass, 1976; Glass, McGaw, & Smith, 1981; Hedges, 1987; Hedges & Olkin, 1985; Rosenthal, 1984). The accepted strength of meta-analysis, in addition to its inclusive orientation, is that findings from different studies are reduced to a common metric (i.e., effect size) that provides an estimate of comparability and importance of outcomes. No one has yet used quantitative review methods to summarize research on self-determination interventions. Because of the importance of understanding the overall effect of this intervention research, a meta-analysis was chosen as the acceptable and preferred method for systematic analysis of interventions that yield self-determination outcomes. This analysis involved the following steps: (a) locating studies using replicable search procedure, (b) coding studies, (c) describing studies using demographic features and a common outcome scale, and (d) using statistical methods to find relations between study features and study outcomes.

Literature Search Procedures

A wide variety of electronic and print resources was screened to identify articles (published or in press) for possible inclusion in this study, including ERIC, EBSCO-Host, PsycInfo, *Dissertation Abstracts International*, and the Council for Exceptional Children databases. Twenty-nine search terms (e.g., self-advocacy, problem solving, student-directed learning) were each used in conjunction with the word "disabilities" to narrow the search.[1] Recent issues of relevant journals (e.g., *Exceptional Children, Career Development for Exceptional Individuals, Learning Disabilities Research and Practice*) were searched manually to identify references not yet included in electronic databases. In addition, the reference sections of included articles as well as position papers, chapters, and books on self-determination were reviewed to identify potentially relevant research. Finally, nearly 200 researchers and practitioners widely recognized as active in the field of special education were asked to identify and submit additional studies.

Inclusion Criteria

Abstracts, method, and results sections of potential articles were reviewed by two researchers knowledgeable in self-determination and research to ascertain appropriateness for inclusion and further consideration and inclusion according to six criteria. First, the article had to be published or in press in a peer-reviewed journal between 1972 and 2000. (The year 1972 was selected because it marked the earliest

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definition found for self-determination.) Second, the subjects had to be individuals classified with one of the disabilities recognized by the Individuals With Disabilities Education Act or nonspecified developmental disabilities. Third, studies involving individuals from age 3 to adulthood were included. Fourth, the article had to report the results of a data-based intervention. The article did not have to demonstrate experimental control and could be a report of a teaching intervention or a qualitative study. Fifth, the intervention had to be one in which participants learned new skills or acquired new opportunities (e.g., studies that identified only preference patterns or existing self-determination skills were excluded). Sixth, the intervention had to focus on a component of self-determination as a dependent variable. Excluded were reviews, position papers, or expository articles that did not report first-hand data, as well as research that did not involve direct interventions to promote self-determination (e.g., correlational and descriptive studies). The application of these criteria yielded 51 studies for inclusion in this review. Because of the limited number of studies identified, articles that met literature review inclusion criteria but not the more stringent criteria for statistical analysis were retained and the study characteristics were summarized in narrative form (see Figure 1). (F1)

Metric for Effect Sizes

Calculating effect sizes in group and single-subject research has not been practiced without controversy (Dunkin, 1996; Salzburg, Strain, & Baer, 1987; White, 1987). In this research, commonly used estimates (Busse, Kratochwill, & Elliott, 1995; Cooper, 1998; Scruggs, Mastropieri, & Casto, 1987) were calculated and reported separately for group and single-subject studies as evidence of the effectiveness of interventions to promote self-determination.

Group studies. The metric used to estimate and describe the effects of self-determination group interventions ($n = 9$) was the standardized mean difference (*d*-index) effect size (Cohen, 1988). For two-sample studies, the effect size was calculated by subtracting the control group's mean score from the experimental group's mean score and dividing the difference by the control group standard deviation. For single-sample studies, the mean score on the pretest was subtracted from the mean score on the posttest and the difference was divided by standard deviation of the pretest. Contingency tables and estimated chi-square statistics were used for studies involving proportions.

Single-subject studies. For single-subject research studies ($n = 3$), a nonparametric approach to meta-analysis was used that involved computing the percentage of nonoverlapping data (PND) between the treatment and baseline phases to determine the intervention effects (Busse et al., 1995; Scruggs, et al., 1987). Although standardized mean difference effect size has been used as the treatment measure for single-subject studies (Busk & Sterlin, 1992), the limited number of observations or data points, especially for baseline, in single-subject intervention studies makes this method less desirable than computing the PND in obtaining reliable and valid effect sizes and meaningful interpretations (Scruggs, Mastropieri, Cook, & Escobar, 1986). In the current study, the PND for each intervention was computed and averaged across participants. If more than one skill was measured, the PND was computed for each skill as a separate "intervention." The median PND was then determined across all interventions. Because PNDs are not normally distributed, the median score is preferred to the mean as the summary statistic because it is less likely to be affected by outliers (Scruggs et al., 1986).

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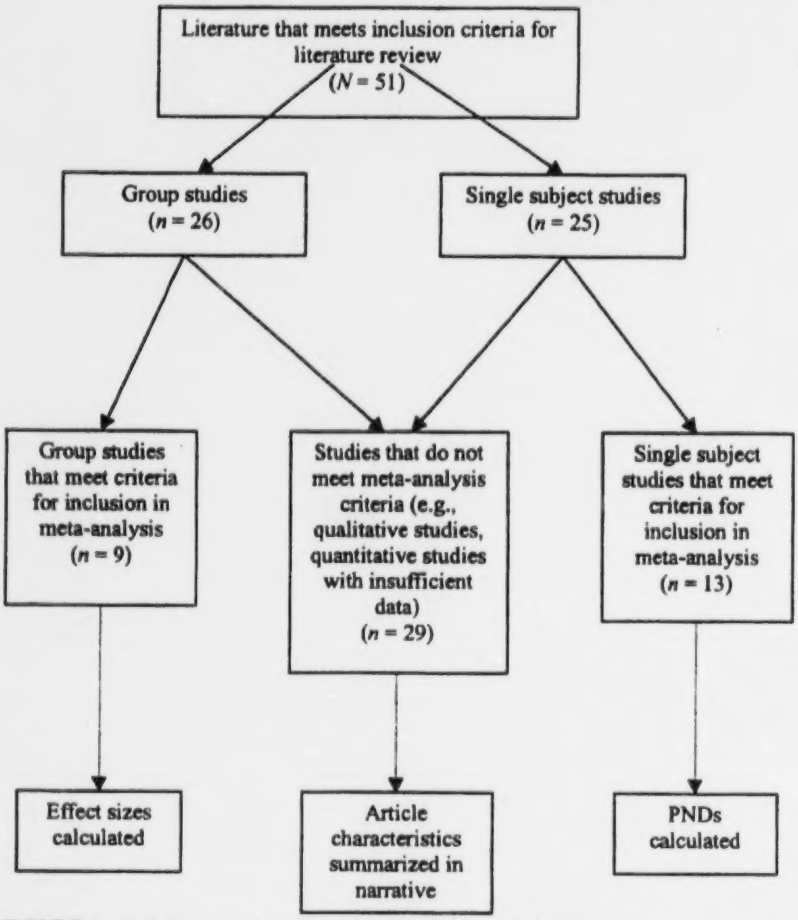
Literature that meets inclusion criteria for literature review
(N = 51)
Group studies
(n = 26)
Single subject studies
(n = 25)
Group studies that meet criteria for inclusion in meta-analysis
(n = 9)
Studies that do not meet meta-analysis criteria (e.g., qualitative studies, quantitative studies with insufficient data)
(n = 29)
Single subject studies that meet criteria for inclusion in meta-analysis
(n = 13)
Effect sizes calculated
Article characteristics summarized in narrative
PNDs calculated

FIGURE 1. *Self-determination intervention literature included in review.*

Effect Size Calculations

One of the assumptions underlying meta-analysis is that effects are independent of one another (Springer, Stanne, & Donovan, 1999). A problem arising from calculating average effect sizes is deciding what represents an independent estimate of effect when multiple outcomes are reported in a single study. To compensate for this, shifting units of analysis (Cooper, 1998; Springer et al., 1999) were used in this research. Each effect related to a separate outcome measure was first coded as if it were an independent event. For example, if a single study reported effect sizes on final and follow-up scores, the two dependent findings were coded separately and reported as redundant. Similarly, for the single-subject studies, if the same intervention was used across behaviors, the PND for each behavior was computed separately. Estimates of

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effects from these nonindependent findings were then averaged and reported as nonredundant.

It is accepted in meta-analysis that a review will not uncover every study of the hypothesis being tested (Hedges & Olkin, 1985; Wolf, 1986), and further, "[n]onsignificant results are less likely to be retrieved than significant ones" (Cooper, 1998, p. 123). As Rosenthal (1979) puts it,

> The extreme view of this problem . . . is that the journals are filled with the 5% studies that show Type I errors, while the file drawers back in the lab are filled with the 95% of studies that show insignificant (e.g., $p > .05$) results. (p. 638)

Rosenthal suggested that meta-analysis inclusion criteria requiring publication in professional journals may be biased by the simple fact that research that does not produce significant findings often is not published; it remains in the file drawer rather than receiving widespread dissemination. The potential for inclusion bias, or the likelihood that the studies available in published journals are not representative of all studies conducted, was addressed by using Orwin's (1983) method of calculating a fail-safe number to ensure confidence in findings:

$$N_{fs} = \frac{N(d - d_c)}{d_c}$$

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where N = number of studies in meta-analysis, d = the average effect size for the studies synthesized, and d_c = the criterion value selected that d would equal when some knowable number of hypothetical studies (N_{fs}) were added to the analysis. Application of this procedure generated an N_{fs} of 21, confirming that the number of studies included ($n = 22$) was adequate to reasonably control the file drawer problem.

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Study Coding

Each source identified through the literature search was screened to determine its potential for this study using the inclusion criteria as described. Each article that met the inclusion criteria was marked for further analysis. A coding form was developed, piloted, and revised for use in recording characteristics of the research that would be meaningful in subsequent analysis. Training on the use of the form was conducted in order to insure standardization of coding. A sample of 27% of identified articles was coded independently by two researchers to obtain an estimate of overall interrater agreement for the project. Average interrater reliability was .93. Results of systematic analysis of the included research literature were transferred from coding forms to an electronic spreadsheet and checked for accuracy with item-by-item, line-by-line examination by two researchers. For the computation of PNDs, reliability was determined by having a graduate student recompute 8 of the 18 PNDs. Reliability was computed by doing an exact comparison of each numerator and denominator in the PND computation and found to be 100%.

Results

Characteristics of the obtained literature were summarized and effect sizes were computed for each study. Final analyses of the features of self-determination intervention research and obtained effect sizes represent outcomes presented below.

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What Self-Determination Interventions Have Been Studied?

No articles addressing self-determination interventions were published between 1972 and 1977; 51 articles were identified from 1978 to 2000. Nine (18%) were included in the group research meta-analysis and 13 (25%) were appropriate for the single subject meta-analysis. An additional 29 studies (57%) were identified that met the criteria for inclusion as self-determination interventions but that could not be included in the meta-analysis because they used a qualitative research approach, had no experimental design, or did not provide adequate description of the data to be able to compute effect size (see Figure 1). Fourteen of the studies used a pretest-posttest design. Subjects were randomly assigned to treatment conditions in five studies, six used a nonequivalent comparison group, five used a single-case multiple baseline design, and four used qualitative methods. Four studies reported results of a survey of opinions about the intervention program. All of the studies are summarized in Table 1.

The total number of participants in the 51 studies was 992. The average number of subjects in the group intervention studies was 41 ($SD = 38$), and in the single-subject studies, it was 4. The median number of subjects in the group research was 23, with a range of 6 to 130 subjects per study and for single subject 3 (range 1–16). Four group design articles (15%) reported outcomes based on less than 10 students, 10 (38%) represented findings for 10–25 students, 4 (15%) for 26–50 students, and 8 (31%) for more than 50 individuals with disabilities. Only one article per year appeared in 1978 and 1980, and again for a few years in the mid-1980s. With the exception of 1997, when only one article was published, the number of articles per year increased in the 1990s. Five or more articles were published each year in 1994, 1998, and 1999 (see Figure 2).

Focus areas of self-determination intervention research and research methods are presented in Table 2. Individual self-advocacy, goal setting and attainment, self-awareness, problem-solving skills, and decision-making skills were among the most common intervention targets in group studies, whereas choice-making skills, problem-solving skills, and self- observation, evaluation, and reinforcement were most commonly targeted in single-subject studies. While all 51 studies used teaching as an intervention approach, 16% also used person-centered planning methods, 16% incorporated relationships with others, and 14% included preference assessment techniques.

What Groups Have Been Taught Self-Determination?

Twenty-nine studies (56.9%) included adolescents (14–21 years of age), individuals over 21 years of age participated in 24 (49.0%) of the studies, and 10 studies (19.6%) included younger students (5–13 years of age). Only one study (2%) included students under the age of 5 years. The majority of single subject studies (56.0%) included participants over 21 years of age, while adolescents were included in most (76.6%) group studies. Mental retardation and specific learning disability were the most frequently represented disability categories in group studies; 18 studies included students with mental retardation and 12 included students with learning disabilities. Single subject studies primarily included individuals with mental retardation ($n = 20$) and dual diagnoses ($n = 5$). Other groups were included in a few of the other studies (see Table 3).

(*text continues on page 90*)

TABLE 1
Summary of literature on self-determination interventions

Study	Sample and Skill	Method (who teaches, where, and how)	Outcomes (direct and generalized)
Abery, Rudrud, Arndt, Schauben, & Eggebeen (1995)	Eighteen students ages 14–20 with mental retardation who were taught in three suburban school systems and were in special education classroom for most of the day (5.2 out of 6 hours). Ten modules in classroom curriculum, including **self-awareness**, self-esteem, perceptions of personal control, values, **goal setting**, assertive communication, **choice making**, behavior regulation, **problem solving**, and **personal advocacy**. Family support modules included **personal futures planning**; conducting family meetings; balancing family values and self-determination; supporting **choice making**; enhancing **problem solving**; realizing vision; strengthening **personal advocacy**; and **creating linkages** within the community	Taught in small group format by two instructors associated with the project and an adult mentor with a disability. Classroom-based competency building sessions taught in 24 weekly sessions, each of which was 90 minutes long. Used information sessions and experiential learning (e.g., role-play, small group). Family education and support program implemented in families' homes on individual basis in multiple 2-hour sessions.	**Direct:** Parents reported statistically significant improvement in students' SD skills at pre- and post-comparsions on choice making, problem solving, self-regulation, and self-advocacy. Statistically significant increases pre- and post-comparisons were noted in the degree to which students were provided with opportunities for personal control in family and health issues. Significant increases were seen in the extent to which students exercised control in family contexts. **Generalized:** Slight increases (statistically nonsignificant) were seen in pre- and post-comparisons of the extent to which opportunities and attempts to exercise personal control occurred in work and school environments.

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Adelman, MacDonald, Nelson, Smith, & Taylor (1990)**	Eighty-five students ages 5–18 who had at least average intelligence but specific learning disabilities in school. Participants' parents had contacted a university clinic for psychoeducational assessment and consultation. Intervention intended to enhance readiness for participation in conference session. Taught **decision-making** and **problem-solving skills**.	Intervention took place within the clinic and was conducted by research assistants. Comparison of three groups: (1) preconference intervention—researcher explained process, encouraged participation, and rehearsed strategies with student; (2) preconference placebo—neutral explanation of conference process; and (3) non-intervention group—received regular assessment and consultation process.	**Direct:** There were no significant differences between groups on behavior tallies, frequency or quality of students' participation in the meeting, conference satisfaction, or perceptions of control. There were some higher group means and some differences by sex and age within post-hoc analyses. Groups with higher interest in participating showed higher motivational readiness. **Generalized:** No results reported.
Artesani & Mallar (1998)	One male 6-year-old student in the first grade labeled other health impaired participated in a school-based effort to provide positive behavioral supports using a combination of **person-centered planning** and functional analysis, as well as participants' appraisal of **goal attainment**.	Special educator used interviews and observations to complete a functional analysis of participant's behavior. A MAPS planning session was used to identify ecological and antecedent supports and consequence-related supports. A positive behavioral support plan was implemented. Replacement behaviors were taught and monitored one-on-one by an educational technician.	**Direct:** Targeted challenging behaviors were reduced. There was an increase in both the quantity and the quality of academic work. There was an increase in participation in group activities. Additional positive outcomes included increased time engaged in academic tasks and a reduced need for one-to-one assistance. **Generalized:** None reported.

** Included in group intervention meta-analysis

continued

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TABLE 1
Summary of literature on self-determination interventions (continued)

Study	Sample and Skill	Method (who teaches, where, and how)	Outcomes (direct and generalized)
Aune (1991)	Fifty-five high school juniors and seniors with learning disabilities who had FSIQ score ≥ 90, a current and active IEP, and documentation of academic achievement commensurate with their peers in at least one academic area. Skills taught (e.g., **self-awareness**, career and postsecondary education exploration, study strategies, **self-advocacy skills**, interpersonal skills) were determined on individual basis through preintervention assessment.	Intervention occurred in students' high school settings. Secondary transition counselor worked individually with students in junior and senior years and provided case management. Optional group sessions were held during the summer. Postsecondary counselors held monthly sessions or communicated by phone or letter after graduation.	No statistically significant results reported. Of the group, 58% completed 1 year of college and 26% completed 1 year in the military or in a job following graduation. Student self-report of awareness and skills improved in some areas. No significant increase in scores on Janus-Field Feelings of Inadequacy Scale. Students evaluated the project positively. **Generalized:** No results reported.
Balcazar, Fawcett, & Seekins (1991)	Four students ages 20 to 28 with visual, hearing, or orthopedic disabilities or dual diagnoses, from a large Midwestern university. Training focused on help recruiting (**self-advocacy**) skills. Secondary measures included impact of intervention on students' **goal setting and attainment** skills and **support networks**.	A training manual was developed based on research (situational analysis, review of literature, task analysis). Training was conducted in an office on campus by the first author, while actors played the role of potential helpers. Training was conducted individually in 1-hour sessions held 3 times a week for 1 month. Training included review of lesson content, review of written exercises and role-play exercises. Progression to	**Direct:** There was significant improvement in help recruiting behaviors at **pre- and post-comparison.** There was a significant increase in size of support network. Majority of goals set before intervention were attained. **Generalized:** Help recruiting skills maintained from post-training to generalization probe.

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		the next lesson was dependent on reaching the training criterion (completing 100% of responses in two consecutive trials). Generalization probes were conducted in offices of four university professors with professors or graduate assistants participating.	
Bambara & Ager (1992)*	Three adults ages 31–57 with moderate developmental disabilities participated in self-scheduling (**self-regulation**) plus training to promote leisure activity in participants' group homes.	Staff (graduate students in special education) used activity book and cards representing activities. Prompted participants daily to look at the activity book and review it nightly. Staff presented a minimum of 10 activity options. Self-scheduling training consisted of explaining the steps, modeling, and corrective feedback on each step of the task analysis. Training occurred twice a day for 7 days and then the number of sessions was gradually decreased. Use of natural cues and prompts.	**Direct:** Program successfully taught subjects to independently schedule activities. Self-scheduling and training for implementation led to an increase in self-directed leisure activities. Participants learned to engage in a wider variety of activities. **Generalized:** At 2-month post-maintenance follow-up, participants continued to maintain their activity level at rates comparable to those during intervention.
Belfiore, Browder, & Mace (1994)	Four adults with profound mental retardation who were enrolled in a continuing education and job training program participated in the study. Used **preference assessment** technique to target **choice-making** opportunities.	Training took place in the program's building (large work area, two smaller break rooms) and in community sites previously encountered by participants. Before beginning the preference assessment, each participant's ability to make an independent selection was confirmed. Stimuli	**Direct:** All four participants increased choice-making behavior toward beverages. However, none of the participants displayed a clear preference for one beverage.

* Included in single subject meta-analysis

continued

TABLE 1
Summary of literature on self-determination interventions (continued)

Study	Sample and Skill	Method (who teaches, where, and how)	Outcomes (direct and generalized)
		used in the preference assessment were also identified at this phase. Preference assesament included two single choice trials per beverage in a counterbalanced design. Used verbal cue, and physical prompt (if no response in 5 seconds). 10 trials per session, three sessions in each location, daily. Single trial follow-up sessions conducted at 2, 4, 6, and 8 weeks.	**Generalized:** In the community setting, all participants engaged in a higher frequency of beverage selecting. Half demonstrated a clear beverage preference. Preferences established during the training phase were maintained at follow-up.
Bowman & Marzouk (1992)	A 20-year-old college student with a learning disability and orthopedic impairment who worked with an occupational therapist (OT) and physical therapist (PT) to assess his needs and resources related to participation in college. Developed **self-awareness** and **self-advocacy** skills.	OT and PT assessed equipment, financial, and other needs for student to perform activities of daily living, maintain his health, and meet his college goals. Evaluation of potential areas of difficulty was conducted with the client. Assets and available supports that could offset areas of difficulty were also assessed. OT provided the student with information about the Americans With Disabilities Act and assisted him in negotiating with the university when the administration was	**Direct:** Anecdotal descriptions of success in obtaining accommodations for employment, housing, academic, and leisure activities. **Generalized:** None reported.

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		not receptive to his requests for accommodations.	
Bregman (1984)**	One hundred twenty-eight (128) adults with mental retardation who had been diagnosed by facility staff demonstrated appropriate verbal skills and understanding to participate, and volunteered for the study. Treatment group received 6-week assertiveness (**self-advocacy**) training module conducted in a small group setting.	Training conducted by instructor in four rehabilitation centers near Washington, D.C.. Six-week program conducted in small group settings. Use curriculum adapted from Elwyn Institute's assertiveness training manual.	**Direct:** Training made a significant difference in treatment group's assertive communication. There were no significant changes in their ability to discriminate between passive, aggressive, and assertive communication. There were no significant differences between treatment and control groups on locus of control scores. **Generalized:** No results reported.
Browder, Cooper, & Lim (1998)	Three adults ages 55 to 67 with severe mental retardation were taught to express their **choice** concerning settings for leisure activities. Inclusion criteria included the ability to point to objects, the inability to communicate via manual signs or pictures, and a lack of increase in verbalization beyond the few words at the beginning of training.	Settings for the study included an adult day center, a library, a golf course, and a recreation center. Before training, observation of activity selection and duration was conducted to determine preferences. Identified objects that would signify different leisure activities (were used to express choice). Used a 5-second.time delay to teach object selection. Two choice preference assessment used to determine participants' preference for activities.	**Direct:** There were different levels of duration of participation across settings The subjects learned to correctly select objects representing target activities The subjects selected the community options more than the day center options. **Generalized:** None reported.

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** Included in group intervention meta-analysis

continued

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TABLE 1
Summary of literature on self-determination interventions (continued)

Study	Sample and Skill	Method (who teaches, where, and how)	Outcomes (direct and generalized)
Browning & Nave (1993)	One hundred four high (104) school students with specific learning disabilities and mental retardation in 16 classes were taught a social **problem-solving** curriculum that also emphasized **decision-making** skills.	Secondary special education teachers implemented the curriculum in twelve public schools in the Northwest. Students were presented with 33 video scenarios, as well as 65 slides to teach the problem solving process. Thirty "learning point" (guidelines) were taught over five lessons. Three problem areas included work, people, and money. Group instruction used interactive video, discussion, and decision-making rehearsal. The teacher was able to tailor the curriculum to meet student needs.	**Direct:** There was a significant difference between pretest and posttest scores on knowledge and application of curriculum materials. Positive evaluations of the curriculum were made by both teachers and students. **Generalized:** None reported.
Castles & Glass (1986)	Thirty-three adults (33) ranging from 18 to 36 years of age with mild to moderate mental retardation who were clients in a vocational training facility in a large metropolitan area. One group received training in interpersonal **problem solving**. A second group received social skills training, and the third group received a combination of the two.	Treatment groups met twice per week for a total of 15, 1-hour sessions. Groups were conducted by an advanced graduate student in psychology. Groups used a series of techniques to respond to vignettes (brainstorm solutions, role play, select best solution, go through steps needed to implement the solution). Social skills group introduced modeling and emphasized verbal and nonverbal skills. Real life social situations	**Direct:** Subjects improved on behavioral social skills assessment. Subjects with moderate mental retardation improved slightly relative to the control group on a social problem-solving test. Subjects in social skills group improved on ratings of personal and social responsibility. There were no statistical significant findings on measures of locus of control or self-efficacy.

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		suggested by the participants were introduced.	**Generalized:** Treatment gains did not generalize to untrained role-play on behavioral social skills assessment.
Cooper & Browder (1998)*	Three adults ages 26 to 48 with severe mental retardation received **choice-making** instruction in community (restaurant) settings.	Training took place in a variety of fast food restaurants and was conducted by a graduate student. Prompted choices on each of five tasks in a purchasing routine. Participant could make an independent choice (unprompted) or choose from two options (prompted). Prompts were initially made with a 0-second delay and then after a 5-second delay starting in the third session. Participants were praised for making a choice; if they did not choose, the instructor chose for them.	**Direct:** The number of independent choices increased for all three participants. The level of performance of steps of the task analysis also increased as choice making increased. **Generalized:** None reported.
Cross, Cooke, Wood, & Test (1999)**	Ten participants ages 15 to 20 with mild and moderate mental retardation in a large urban system. Modified versions of Choosing Employment Goals curriculum and MAPS, a person-centered planning strategy, were used to teach **goal setting, self-awareness, self-evaluation, problem solving and choice-making** and **decision making**.	Set in self-contained special education classroom within an integrated public high school. Instruction provided daily in 50-minute sessions by first author (a graduate intern). Used video-tapes, worksheets, group discussion, and feedback.	**Direct:** There were no differences between the groups but both interventions resulted in significant changes in pretest and posttest scores. Choosing Employment Goals (CEG) yielded larger effect sizes (greater than .70) of the total Arc self-determination score, and autonomy and

* Included in single subject meta-analysis
** Included in group intervention meta-analysis

continued

TABLE 1
Summary of literature on self-determination interventions (continued)

Study	Sample and Skill	Method (who teaches, where, and how)	Outcomes (direct and generalized)
			empowerment subscales. CEG also provided large effect sizes on the ChoiceMaker Assessment for choosing goals-opportunity and taking action. MAPS also yielded larger effect sizes for choosing goals-opportunity, expressing goals-opportunity, and taking action-opportunity.
Dattilo & Rusch (1985)	Four children with multiple disabilities (including severe mental retardation) participated in an investigation to determine the effect that **choice** had on participation in leisure activities.	Study took place in a public elementary school during the summer, in self-contained, special education classes. The children were given opportunities to choose between video clips of TV programs. They were trained in switch manipulation. The experimental design included two contingent participation conditions (choice) and one noncontingent participation condition (no choice).	**Generalized:** No results reported. **Direct:** Three of the four children increased their use of the switch and the length of their gaze at the AV display when given a choice. **Generalized:** None.
Durlak, Rose, & Bursuck (1994)**	Eight students ages 15 to 17 with learning disabilities in a large Midwestern suburban high school. Two students were dually diagnosed with behavior/emotional disabilities.	Assessment and group training were conducted in a resource classroom, while generalization took place in academic classrooms and other places in school. Trained in	**Direct:** Students acquired skills in two to five trials per task. No significant differences were found on pretest-posttest measures of self-awareness,

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	A number of behaviors related to **self-awareness** and **self-advocacy** skills were targeted.	groups of four students, twice a week, in 30-minute sessions. Used seven-step process (including corrective feedback, opportunity to practice modeling, generalization training) developed based on combination of direct instruction and learning strategies. Generalization tasks were conducted in natural environment after mastery achieved.	self-advocacy, assertiveness, or self-concept. **Generalized:** All students completed the maintenance task correctly 1 week following training. Students completed an average of 4.38 of 5 generalization tasks.
Everson & Zhang (2000)	Nine adults over the age of 21 with an unspecified disability involved in a person-centered planning model. Participants were selected in terms of circles that had been more and less successful.	Participants met in the meeting room of a public library to engage in one specific model called personal futures planning (PFP). They attended a 2-day workshop on PFP and individualized follow-up support was provided to each circle by a trained PFP facilitator. A focus group was conducted 1 year postintervention	**Direct:** PFP was a positive experience for participants; positive changes in focus person's life were noted. Common challenges faced by circle members were summarized.
Ezell, Klein, & Ezell-Powell (1999)	Students with mild mental retardation who received most or all of their instruction in three secondary and five elementary self-contained classrooms. Participating teachers volunteered and were selected for participation based on implementation of portfolio assessment technique that met authors' criteria. Used portfolio assessment as intervention that promoted choice	Qualitative study of the impact and implementation of portfolio assessments with students. No systematic instruction was provided on the implementation of the assessments, but teachers were required to meet a set of criteria on portfolio assessment implementation in order to participate in the study. Portfolios used in self-contained classrooms.	**Direct:** Emergent themes included four domains (communication, student outcome, time, and support). Findings related to SD include participant reports that the portfolio assessments resulted in increased student self-esteem, self-advocacy, goal

continued

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** Included in group intervention meta-analysis

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TABLE 1
Summary of literature on self-determination interventions (continued)

Study	Sample and Skill	Method (who teaches, where, and how)	Outcomes (direct and generalized)
	making, decision making, goal setting and attainment, and **self-assessment,** and **self-advocacy,** as well as pride and autonomy.		setting, control, ownership of learning, student empowerment, choice making, decision making, and self-assessment. **Generalized:** None reported.
Foxx, Faw, Taylor, Davis, & Fulia (1993)*	Six adults with mental retardation and a dual diagnosis participated in the study. Used results of initial **preference assessment** (phase I) to teach **choice making** and **self-advocacy**.	Preference assessment and two choice sessions conducted by graduate students in a coed living unit for adults with mental retardation and a dual diagnosis. The third phase, in which participants were taught to assess the availability of lifestyle preferences during group home tours, included training conducted in small groups, with 30- to 70-minuute sessions. Used instructions modeling and role-playing, feedback, and praise. Photo albums were used by participants as prompts to ask questions and record answers. Data collection during the third phase was conducted at group homes in the community and in simulated settings.	**Direct:** Participants were skillful in expressing preferences for community living lifestyles. Participants selected an average of 6.3 items as important; there was a high level of discrepancy between staff and residents. Training increased participants' questioning and reporting. **Generalized:** Increases in participants' questioning and reporting generalized to the actual group home tours. Performance was maintained at follow-up.

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Fullerton & Coyne (1999)	Twenty-three (23) individuals ages 16 to 28 who were referred by regional autism specialists. All were high-functioning young adults with autism. Evaluation of "Putting Feet on My Dreams" curriculum, which included units on **decision making, goal setting and attainment, self-awareness**, and other topics.	Training conducted by classroom teachers in ten 2- to 3-hour sessions with six to nine students per class. Specific instructional strategies (e.g., presenting information visually; providing information about social situations before group activities) were used to maximize students' benefit from the materials.	**Direct:** Qualitative descriptions of student and parent interviews. Students provided input about topics covered. Students indicated instructional strategies had been helpful. Pretest-posttest interviews with students indicated that students were able to use strategies. Students used the communication skills that were taught. The majority was better able to plan things needed to accomplish their goals. **Generalized:** None reported.
Hagner, Helm, & Butterworth (1996)	Six students ages 16 to 22 with mild to severe mental retardation in various locations in Massachusetts participated in the study. **Person-centered planning strategies** were used as part of transition planning.	Personnel from six high schools and related adult service agencies participated in a 2-day training on whole life planning. Six individuals involved in person-centered planning (PCP) with personnel who had been trained were included in the study. Qualitative study of PCP process conducted through observations and interviews.	**Direct:** Discussion of emergent themes, including the relationship between meeting location and who attended; summary of meeting formats; contributions of various participant types to the discussion; tone of the meeting (positive or negative) and how this was influenced; differences in who controlled the meeting; role of facilitators; and expected and unexpected outcomes. **Generalized:** None reported.

* Included in single subject meta-analysis

continued

TABLE 1
Summary of literature on self-determination interventions (continued)

Study	Sample and Skill	Method (who teaches, where, and how)	Outcomes (direct and generalized)
Hoffman & Field (1995)**	Seventy-seven (77) individuals ages 15 to 25 with a variety of disabilities (e.g., mental retardation, learning disabilities, emotional disabilities, sensory disabilities, orthopedic impairment) in two Midwestern high schools were taught **decision making, goal setting and attainment, problem solving, self-advocacy, self-awareness,** and **self-evaluation** using the "Steps to Self-Determination" curriculum.	The curriculum wad designed to be delivered in one 55-minute orientation session; one 6-hour workshop focusing on self-awareness, and sixteen 55-minute sessions that correspond with units in the curriculum. Teaching can take place either as part of a regularly scheduled class or as an extracurricular activity, with groups of about 15 students. Learning takes place during the sessions as well as outside the classroom, as students work on achieving short-term goals.	**Direct**: Participants demonstrated an increase in (1) correct responses to items about self-determination knowledge and (2) behaviors related to self-determination after completing the curriculum. **Generalized:** None reported.
Hughes, Hugo, & Blatt (1996)*	Five students ages 17 to 21 with severe mental retardation (one dually diagnosed with mental retardation and severe mental retardation) in a general education vocational high school were taught generalized **problem solving** within a functional task sequence through a **self-instructional** intervention.	Trainers included university students and general education students from the study participants' vocational high school. Training conducted in rooms adjacent to students' classroom during break time. A series of problems were embedded in a toast making activity. Used self-instruction training with one exemplar, followed by self-instruction training with multiple exemplars. Instruction procedures included	**Direct:** All subjects learned to perform five responses to trained problems. There was a strong positive relationship between self-instructing and correct responses to problems. **Generalized:** All participants learned to perform five responses untrained (generalized) problems; performance was maintained throughout the study after only one or two training sessions.

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		modeling, prompting, corrective feedback. Other training exemplars training withdrawn when performance criteria were met.	
Hughes & Rusch (1989)*	Two adults ages 37 and 57 with severe mental retardation in supported employment clustered placement were taught to use **self-instruction** in combination with multiple exemplar training to **solve problems**. They were selected for participation because they did not solve work-related problems independently.	A university student conducted training and observation within the employee workroom at the participants' job site. Each employee was trained individually for 30 minutes before actual work performance. Ten problem situations were presented, five training, and five untrained (generalization) probes. The self-instruction training sequence included modeling with verbal description; trainer instructing aloud while trainee performed task; and employee performing task while self-instructing.	**Direct:** Frequency of correct responses to trained situations increased for both participants. **Generalized:** Frequency of correct responses to untrained situations increased for both participants. Both employees continued to respond correctly to trained and untrained problem situations at monthly follow-up observations conducted for 6 months after intervention.
Jerman, Martin, Marshall, & Sale (2000)*	Six students, ages 16 to 18 with mild or moderate mental retardation, were taught **goal attainment** skills. Students were selected for participation if they had missed no more than 1 to 3 days of school during the previous academic year.	Students were taught in a medium-sized (400 students) suburban general attendance high school. Students were taught a modified version of the Take Action curriculum that included four 90-minute sessions conducted over 3 weeks. Used videos, instruction on the plan's components, practice plans, and self-evaluation and adjustment to	**Direct:** Percentage of goals accomplished increased during intervention (from baseline). All six students accomplished 100% of goals during maintenance. **Generalized:** None reported.

* Included in single subject meta-analysis
** Included in group intervention meta-analysis

continued

TABLE 1
Summary of literature on self-determination interventions (continued)

Study	Sample and Skill	Method (who teaches, where, and how)	Outcomes (direct and generalized)
		monitor goal progress. Practiced method for 6 days with teacher prompts and feedback. Intervention components gradually withdrawn, except for praise for goal attainment.	
Kennedy & Haring (1993)*	Four students (ages 5, 6, 18, and 20) with developmental disabilities and profound multiple disabilities were taught **choice making** during social interactions.	The study was conducted in special education classes in integrated public schools. The study consisted of three parts. In study 1, a preference assessment was conducted across a range of stimuli for each student. Preferences were incorporated into a microswitch communication system. In study 2, three of the four students learned to use the microswitch system in which a tape to indicate preference was activated. In study 3, the microswitch system was extended to use in social interactions with nondisabled peers (generalization).	**Direct:** In study 2, three of the four subjects learned to press the switch to change stimuli and indicate choice. **Generalized:** Two of the four subjects demonstrated more engagement when they used the switch. One subject had this result when a peer controlled the change of stimuli. The fourth subject displayed a mixed response.
Lehmann, Bassett, Sands, Spencer, & Gliner (1999)	Three school districts participating in a research-to-practice project in transition strategies were included in this study. Each district determined	Study based on empirical foundation, identifying factors contributing to student participation in transition activities. Best practices were	**Direct:** One high school exceeded three goals, met one goal, and did not meet another goal. The second school

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	its own instructional needs. Skills targeted include **decision-making skills, goal setting and attainment, self-advocacy, self-awareness,** and student involvement in planning meetings.	implemented based on needs assessments conducted in first phase. School designed their own interventions (e.g., team-building, develop Parent Advisory Committee, developed transition curriculum, increased student participation in planning, strengthened relationships with families, developed student self-advocacy club). Used goal attainment scaling to evaluate effectiveness of interventions.	exceeded eight out of nine goals and did not meet another goal. The third school exceeded one goal and did not meet another goal. **Generalized:** None reported.
Malette, Mirenda, Kandborg, Jones, Bunz, & Rogow (1992)	Participants were four individuals (two ages 7 and 8 and two adults over the age of 21). One individual was described as autistic, one had a "neurological impairment," one had "severe intellectual disabilities," and one had a dual diagnosis of deaf blindness and severe intellectual disability. Intervention included a **person-centered planning** method.	Each individual participated in Lifestyle Development Planning process, a type of person-centered planning. Intervention consisted of: (1) vision planning, (2) assessment and remediation of barriers to participation, (3) assembly of meaningful routines and schedules, (4) development of specific intervention strategies, and (5) evaluation of the effectiveness of individual interventions. The setting varied depending on the individual, and ranged in length from 4 to 16 months.	**Direct:** All four participants were engaged in a greater number of integrated activities during midpoint and post-intervention periods compared with baseline. Three of the subjects experienced gains of more than 200% in the number of preferred, integrated activities including those with people who were not part of their paid social network. There was improvement in age-appropriate functional skills and an increase in most promising practiced as measured by Program Quality Indicators (PQI) checklist.

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continued

TABLE 1
Summary of literature on self-determination interventions (continued)

Study	Sample and Skill	Method (who teaches, where, and how)	Outcomes (direct and generalized)
			Generalized: Anecdotal reports provided about participants' activities post intervention.
Miner & Bates (1997)	Twenty-two (22) students 14 to 21 years of age all enrolled in public high school special education program providing services for individuals with mental retardation. Used **person-centered planning strategies** adapted from Personal Futures Planning. to develop students' **self-awareness** and **goal setting and attainment**.	The primary author served as facilitator for the person centered planning activities. Students and families created circles of support and a community presence map. The groups also worked to identify student preferences, capacities, and future vision. Facilitator met with families 2 days before IEP meetings to review progress and provide copies of materials generated through the PCP process.	**Direct:** Treatment families participated significantly more in IEP than did the control group families. There were no significant differences between treatment and control groups on percent of post-school discussion during IEP. Parents in the treatment condition gave positive ratings on surveys regarding meeting preparedness and satisfaction.
Mithaug & Hanawalt (1978)	Three adults ages 19 to 21 with severe mental retardation participated in a **preference assessment** to increase **choice making** concerning prevocational tasks. Participants were chosen based on their lack of signs to display in interest in one task over another.	Sessions were conducted by the experimenter in a prevocational classroom for young adults. Phase I: Pairs of items were arranged on a tray and subjects were asked to choose a task. 15 pair combinations, randomly paired. Phase II: Forced comparison–paired most and least preferred	**Generalized:** None reported. **Direct:** In Phase I, most, least, and moderately preferred activities were identified for each participant. In Phase II, 9 out of 12 relationships between paired items were validated. Choices for moderately preferred items increased when paired with low prefer-

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		items with moderately preferred ones.	ence items and decreased when paired with high preference items. **Generalized:** None reported.
Mithaug & Mar (1980)	Two adults ages 19 and 20 with severe mental retardation who were participants in a previous study (Mithaug & Hanawalt, 1978) who had not yet graduated to an advanced program. Used **preference assessment** results to determine whether apparent preferences were actually valid **choices**.	Sessions were conducted by an experimenter in a prevocational classroom in a university setting. Used paired choice preference assessment to determine preference for four work tasks. Used results from the preference assessment to create two types of task substitution conditions: one in which the selection resulted in work on a less preferred task and one in which the selection resulted in a more preferred task.	**Direct:** When participants selected a task that was less preferred than the one actually worked, choices for that object increased in subsequent trials. The converse was also true. Object choices were valid indicators of task preference. **Generalized:** None reported.
Nezu, Nezu, & Arean (1991)**	Twenty-eight (28) adults ages 22 to 53 who were referred to a Dual Diagnosis Project at an outpatient medical school affiliated clinic. All participants were diagnosed with mild mental retardation, had a dual diagnosis, demonstrated maladaptive social behavior, and had no change in medications 1 month before starting the study. Taught **self-advocacy** (assertiveness) and social **problem-solving** lessons.	Assertiveness and problem-solving curricula each taught in five 1-hour sessions by a psychologist and a graduate student in psychology. One group received the assertiveness curriculum followed by the problem-solving lessons; in the other group the order was reversed. Both curricula used process of introduction and orientation to subject matter, followed by practice sessions. Assertiveness training also used role-play, coaching, modeling, video feedback, and social	**Direct:** Both treatment groups demonstrated an improvement on Brief Symptom Inventory and Subjective Units of Distress Scale scores, and caregiver ratings of adaptive functioning. Problem-solving training had an impact on both problem solving and assertiveness, but assertiveness training only affected assertiveness skills. **Generalized:** None reported.

** Included in group intervention meta-analysis

continued

TABLE 1
Summary of literature on self-determination interventions (continued)

Study	Sample and Skill	Method (who teaches, where, and how)	Outcomes (direct and generalized)
		reinforcement. Used personally relevant situations suggested by group members and practice outside the sessions.	
Nietupski, Hamre-Nietupski, Green, Varnum-Teeter, Twedt, LaPera, Scebold, & Hanrahan (1986)*	Three students ages 15 to 20 with moderate to severe mental retardation were included in this study. Participants were selected because they had previously acquired at least two leisure activities but required extensive supervision to sustain involvement in the activity during free time. Taught **choice-making** skills.	Instruction was conducted by the teacher in the recreation area of each student's classroom, during naturally occurring leisure times. Used choice charts to display leisure options. Students were given the opportunity to select a leisure activity, then to sustain that activity for longer periods of time with less supervision. Teacher used verbal praise, verbal and physical prompts, and modeling. Four phases of intervention, with varying length of session, and varying frequency and length of teacher contact.	**Direct:** Frequent teacher contact in first training phase resulted in immediate improvement in sustaining leisure activity. Students seldom failed to make choices when presented with the opportunity. Students maintained high degree of leisure activity sustaining across a 10-minute session with no teacher intervention from 1 week to 4 months following program termination. **Generalized:** None reported. Anecdotal evidence that students continued to use choice charts when given free time.
Nozaki & Mochizuki (1995)	A 27-year-old female with profound mental retardation participated in a case study designed to **assess preference** and increase **choice-making** behavior in leisure activities. The participant was	Both experiments were conducted by the study's authors. The first experiment was conducted in a training unit in a residential setting. Fifty-minute sessions were conducted two to three	**Direct:** E1: Subject demonstrated clear preference for children's music. Rarely chose notebook spontaneously. E2: Choice consistent across settings in presence of experimenter.

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	selected because she only had two spontaneous requests during leisure time and did not often respond to staff verbal prompts.	times a week. Participant was asked to bring favorite item from table. In sessions 2 and 3, researcher introduced a notebook as a signal for the end of the session. After session 3, session ended when participant chose the notebook. Choice-making procedures for E2 were the same as those for E1. The experimenter, and staff and volunteer varied as activity partner for leisure activities; also varied living room and training unit for location.	Having staff act as activity partner in living room led to early choice of notebook. Participant used notebook as a valid refusal option. **Generalized:** None reported.
Parsons & Reid (1990)	Individuals with profound mental retardation, including two dually diagnosed with visual impairment, participated in experiments to assess food **preferences**, to increase **choice making**. Five people ages 27 to 43 participated in Experiment 1 (E1) and 14 adolescents and adults participated in Experiment 2 (E2)	Interventions conducted in a room designed for educational and vocational services during day treatment program. E1: Ten session preference assessment with one sample and five trials per session. Choice-making skills were learned through repeated trials. Results compared with residential staff survey of participants' preferences. E2: Used same assessment procedure as E1. Staff members of the day treatment program served as assessors. Staff was trained on using assessment procedures through discussion,	**Direct:** E1: Assessment procedure resulted in active choice making and participants indicated clear preferences. Staff opinion of participant preferences did not consistently coincide with results of the preference assessment. E2: Routine caregivers were able to apply the procedure and results were predictive of subjects' choice in less structured and more normal environments. **Generalized:** All five participants chose the item during mealtimes that was previously

* Included in single subject meta-analysis

continued

TABLE 1
Summary of literature on self-determination interventions (continued)

Study	Sample and Skill	Method (who teaches, where, and how)	Outcomes (direct and generalized)
		handout, modeling, practice, and verbal feedback on performance. After mastery, experimenter continued contact with staff to provide supervision and make sure the sessions were conducted appropriately. A one-session generalization assessment was conducted for five subjects in the facility's dining room.	demonstrated as preferred during the classroom assessment.
Parsons, Reid, & Green (1998)	One 38-year-old male with a dual diagnosis of mental retardation and deaf-blindness participated in a **preference assessment** for predicting task preferences during supported work to increase choice making behavior. The participant was chosen based on his dual diagnosis as well as the results of a prior assessment revealing valid choice-making skill when presented with familiar objects.	The setting was the participant's job site, in the lobby area of a suite of offices. A secondary setting, a classroom at an adult education center for people with special needs, was used for the prework assessment. The person who would eventually be job coach did the preference assessment. The participant spent time on each task in the same manner as he would on the job. Assessment process included these steps: 1. Guide hands to feel each set of materials 2. Guide hands to complete one unit of each task	**Direct:** The prework assessment predicted tasks that the subject preferred to perform during his routine job. **Generalized:** No results reported.

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		3. Repeat #1 4. Let subject search tabletop, choose task by holding or manipulating material. 5. If choose task, work 3 minutes If not choose task, remove items and do next trial.		
Phillips (1990)	Fifteen students ages 13 to 16 with learning disabilities taught in a 4-year comprehensive high school in a middle class setting. Multi-step Self-Advocacy Plan used instruction and **person-centered planning strategies** to enhancing **self-awareness, goal setting and attainment** skills, and **self-advocacy** skills.	Several school staff share responsibility for implementing parts of the Self-Advocacy Plan over the 4 years students are enrolled in the high school. Early in the process the student met with the resource teacher and all classroom teachers to discuss performance and accommodations. Throughout the process the resource room teacher served as a mediator for learning. At start of second marking period, students were asked to participate in an learning disabilities seminar once a week for 10 weeks, facilitated by a counselor and resource teacher. Several weeks after the seminar ended the students are organized into small groups to focus on and discuss their learning styles and strategies. They were required to keep learning logs and fill out a learning style inventory. Tenth and 11th grades continue	**Direct:** Qualitative data indicated participation effected students' knowledge of service and rights; perceptions of self and learning disability; and awareness of career and educational outcomes. Self-Advocacy Plan was found to have helped students to understand themselves and have some say in what happens at school. Some parents perceived some changes in students but it was hard to attribute to self-advocacy plan. All resource teachers viewed effects of Self-Advocacy Plan as positive. **Generalized:** Anecdotal reports about individual students continuing to develop awareness about learning disabilities and talking to incoming students about self-advocacy.	

continued

TABLE 1
Summary of literature on self-determination interventions (continued)

Study	Sample and Skill	Method (who teaches, where, and how)	Outcomes (direct and generalized)
		with activities similar to those done previously, but with more student involvement. By 12th grade (or earlier depending upon the individual), students can request and IEP change to access the resource room on an as-needed basis.	
Powers, Turner, Westwood, Matuszewski, Wilson, & Phillips (2001)**	Forty-three (43) students with specific learning disabilities, emotional disabilities, other health impairments, multiple disabilities, and orthopedic impairments ages 14 to 17 participated in a controlled field-test of the TAKE CHARGE for the Future curriculum (TCFF). Participants were elected based on educator nomination and parent consent. SD components addressed included **goal setting, problem solving, relationship variables, self-observation**, and **person-centered planning.**	Students were from small, medium, and large communities. Interventions took place in both school and community settings. Students participated in 4 months of TCFF curriculum including individualized 50-minute coaching sessions. There were monthly community-based workshops for youth, parents, and mentors; community activities performed by youth and mentors; telephone and home visit support for parents; and in-service education for transition staff.	**Direct:** Statistically significant findings Educational Planning Assessment, Transition Awareness Survey, Family Empowerment Scale, and student participation in transition planning
Powers, Turner, Ellison, Matuszewski, Wilson, Phillips, & Rein (in press)**	Twenty students with mild mental retardation, other health impairments, multiple disabilities, or orthopedic impairments, as well as	Students from four schools participated in weekly coaching in school workshops at ILC mentoring community. Curriculum lasted	**Direct:** Significant findings for treatment group on dependent variables including Personal Adjustment and Role Skills

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	their parents and mentors, participated in a field-test of TAKE CHARGE, a multicomponent intervention to promote adolescent self-determination. SD focus areas include **goal setting, problem solving, individual self-advocacy, relationship variables,** and **person-centered planning.**	5 months and included individualized 50-minute coaching sessions, monthly community-based workshops for youth, parent and adult mentors, community activities performed by youth and mentors, and telephone and home visit support for parents.	Scale, Family Empowerment Scale, and Level of Personal Accomplishment.
Prater, Bruhl, & Serna (1998)*	Thirteen students ages 11 to13 who qualified for special education services according to local criteria and were diagnosed with a variety of disabilities (learning disability, emotional disability, visual impairment, traumatic brain injury). Used three different teaching methods to teach social skills including negotiating, listening, and **problem solving**.	Instruction took place in language arts special education resource rooms and was conducted by a graduate student with previous teaching experience. Three instructional approaches included teacher-directed, structured natural approach, and cooperative learning. Teacher-directed approach included explanation, modeling, verbal rehearsal, and guided practice. Social skills were measured during role-play and also rated by student, peers, and teachers.	**Direct:** Class that received teacher-directed social skills instruction improved performance in social skills during role play. Class that received social skills instruction in natural, structured approach showed minimal gains, while class that developed own cooperative group rules demonstrated no gains in role-play skills, but some gains in others' ratings of their skills. **Generalized:** None reported.
Rietveld (1983)	Three preschool children with Down's Syndrome who participated in a free-choice program operating in a preschool or kindergarten. Children were taught **choice-making**	Three training phases included acquisition, indoor generalization, and schoolwide generalization. The acquisition phase consisted of describing, modeling, physically	**Direct:** Although it took them longer, all children with Down's Syndrome mastered all four skills taught by the end of Phase I training indicating

* Included in single subject meta-analysis
** Included in group intervention meta-analysis

continued

TABLE 1
Summary of literature on self-determination interventions (continued)

Study	Sample and Skill	Method (who teaches, where, and how)	Outcomes (direct and generalized)
	behaviors. Compared with non-disabled peers who demonstrated similar choice-making behaviors and with those who demonstrated more mature choice-making behaviors.	prompting, and reinforcing. Training occurred indoors within an unrestricted area and then progressed to schoolwide training. Choice behaviors targeted included scanning alternatives available before selecting an activity, selecting new activities following the conclusion of the previous activity, completing activities after being distracted by an adult and completing activities after being distracted by a peer. Training was conducted by the author (an itinerant resource teacher for children with Down's Syndrome) in daily, 15-minute sessions in a quiet area in each child's preschool.	that mature choice behaviors can be established in children with Down's Syndrome. **Generalized:** Performance on the final structured observation made 13 weeks after the end of Phase III training indicated all target behaviors had been maintained and generalized.
Roffman, Herzog, & Wershba-Gershon (1994)	Thirty-six (36) students (19 experimental and 17 control) ages 17 to 25, all of whom were enrolled in a college-based nondegree program to help prepare for an independent adulthood. Treatment group taught **self-awareness** and **self-advocacy** skills in a course entitled "Under-	Instruction provided by ULD instructor on general information about learning disabilities and compensatory mechanisms. Students also met individually with the instruct to develop an ILP. The ILP was used for a role-play final exam on its	**Direct:** Students in the treatment group performed significantly better at posttest on knowledge questionnaire and mock interview. Learning in the ULD course was not correlated with scores on the Piers-Harris Self-Concept Scale, or with

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	standing Learning Disabilities" (ULD).	content and is reviewed again a year later.	employers' ratings of students on the Becker Work Adjustment scale. **Generalized:** Work adjustment scores were maintained at 1-year follow-up.
Schleien & Larson (1986)*	Two males ages 27 and 29 with severe mental retardation participated in a leisure education training program designed to teach life skills in relation to the functional use of a community recreational center and to provide **choice-making** opportunities.	Subjects were trained in a community recreational center in Minneapolis during 3-hour sessions once a week that took place for 20 weeks. Environmental analysis was used to create task analysis for three leisure activities, including leisure choice, that were then taught to the participants. An illustrated booklet of available activities was provided at the checkout desk to help participants select activities.	**Direct:** Participants mastered all three recreational skills, including making leisure choices, within the 20-week training period. The subjects acquired age-appropriate leisure skills to independently use the recreational center. They were able to access the center without the care provider. The subjects were also partially able to interact with the recreational center staff regarding personal preferences of recreational activities. **Generalization:** Subjects maintained trained behaviors at 7 months and performed the skills at three other recreational centers during the 3 months after instruction ended.
Sievert, Cuvo, & Davis (1988)*	Eight adults age 19 to 27 with specific learning disabilities, developmental disabilities, and mild mental	Subjects were trained in classrooms within a rehabilitation facility, in a case manager's office, and in three	**Direct:** All subjects learned to discriminate between violations and nonviolations

* Included in single subject meta-analysis

continued

TABLE 1
Summary of literature on self-determination interventions (continued)

Study	Sample and Skill	Method (who teaches, where, and how)	Outcomes (direct and generalized)
	retardation living in an independent living center were taught **self-advocacy** skills. All participants demonstrated a skill deficit in legal knowledge.	community settings. Participants were taught to determine whether or not possible violations of legal rights occurred in socially validated scenarios and role-played how to redress rights violations. Instructional content included 30 legal rights and requirements in four domains (personal, community, human services, and consumer) generated from a review of disabilities rights literature. Used written instructions, discriminating training, videotapes, and behavioral rehearsal to teach participants how to redress violations.	and to identify and redress rights violations. **Generalization:** All participants demonstrated generalization on the community role-play test and two of three demonstrated generalization on the in vivo test that was conducted in the case manager's office.]
Sigafoos, Roberts, Couzens, & Kerr (1993)*	Five young adults ages 17 to 20 with moderate or severe mental retardation who were nonverbal and nonambulatory were provided increased opportunities for **choice making** and turn taking concerning snack and leisure activities.	Direct care staff were trained on providing opportunities for turn taking and choice-making. Training included a 15-minute presentation, a written handout, demonstration, and implementation with observer feedback. In the intervention phase of the study, staff and observers rehearsed the six	**Direct:** The in-service and intervention package was effective in training staff to provide turn-taking and choice-making opportunities. The number of correct client responses increased with increased opportunities provided by staff.

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		steps in the handout immediately prior to each observation. Observers also gave feedback immediately after the session about the number of opportunities provided and how well the steps had been implemented. Intervention phase sessions were conducted in a local vocational and technical institute. Generalization was assessed in two ways, including client response to different staff member and original client-staff dyad in a community setting.	**Generalized:** Staff provided a similar number of opportunities for choice making with new clients as they did with original client. Use of turn-taking and choice-making strategies generalized to the community setting.
Stowitschek, Laitinen, & Prather (1999).	Twelve students ages 12 to 17 with developmental disabilities, mild or moderate mental retardation, multiple disabilities, or autism participated in a field study of a self determination curriculum. Variables addressed include **choice making** and **relationship variables**.	Students were selected on the basis of responsiveness, need for instruction, and willingness to participate. Intervention was conducted in junior and senior high schools in Washington. The curriculum studied was Transition Choices Program (TCP), which includes six units. Cards with coincidental teaching and simulation activities with cards for special education and general education teachers and parents. Unit 1 lasted 7 weeks and unit plus the follow-up of unit one lasted 5 weeks.	**Direct:** Students' performance of SD skills increased after they received instruction.

• Included in single subject meta-analysis

continued

TABLE 1
Summary of literature on self-determination interventions (continued)

Study	Sample and Skill	Method (who teaches, where, and how)	Outcomes (direct and generalized)
Tymchuk, Andron, & Rahbar (1988)**	Nine females with mild mental retardation ages 21 to 38 who participated in an assessment and treatment program for mothers with mental retardation. Trained in **decision-making** and **problem-solving** techniques.	Training was conducted by a psychologist in group format, 90-minute sessions, once a week for 6 weeks. Components of decision making included problem identification, goal definition, identify decision maker, alternative decisions, and consequences of alternative decisions. One component of decision making introduced each session. Used vignettes to illustrate decision-making process. Positive reinforcement of correct answers.	**Direct:** Participants demonstrated significant improvement on identification and use of decision-making components in trained vignettes. The appropriateness of final decisions improved in high-risk situations; however, all participants had difficulty generalizing alternative decisions and considering consequences. **Generalized:** Participants demonstrated significant improvement on identification and use of decision-making components in untrained vignettes. Effects were maintained at 1-month follow-up.
Van Reusen & Bos (1994)**	Twenty-one (21) students with learning disabilities ages 14 to 21 and their parents. Participants received training about strategies to foster students' **active participation in IEP conferences**.	Researchers conducted a series of sessions, some of which included students only, others of which included students and parents, and one generalization session. Students learned a five-step strategy to promote IEP participation. A series of techniques (orientation, description, modeling, preparing, verbal rehearsal, strategy prac-	**Direct:** Treatment group provided more goals and information during conferences, including more information about strengths and weaknesses and more information about learning and career goals, than IEP lecture group. No significant difference on other content contributed.

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		tice, and feedback) were used to teach the strategy. Students and parents completed Inventory Sheet together during partner sessions. One generalization session was held immediately before the IEP conference. A comparison group received an informational lecture on the purpose of the IEP.	**Generalized:** Anecdotal reports from parents and teachers indicated some students used the strategy while interviewing for jobs and postsecondary schools. One student used the strategy to negotiate modifications for his math class.
Van Reusen, Deshler, & Schumaker (1989)*	Sixteen students ages 16 to 18 who had learning disabilities and received special education instruction 1 to 3 hours a day. Students were selected for participation if their IEP conferences had not yet occurred that year. Taught IEP participation strategy that included **self-advocacy** and **self-awareness** instruction.	Treatment group received training in five-step strategy called IPARS (inventory, provide information, ask questions, respond to questions, summarize IEP goals). Training included an awareness phase, followed by a practice phase in which students verbally rehearse and role play steps. (Must have named steps to 100% mastery prior to this phase). Practice sessions were audiotaped. Role-play and experimenter feedback also used for each response. Role-play repeated until mastery criterion achieved. IEP preparation meeting held for 20 minutes. Control group participated in IEP preparation meeting with different activities.	**Direct:** Treatment group participants demonstrated substantial increases in the number of relevant verbal contributions provided during posttraining probes. **Generalized:** Both treatment and comparison groups were capable of contributing information for their IEP, but treatment participants' performance was significantly better. IEP documents for treatment group participants reflected more goal statements made by students than documents written for control group students.

* Included in single subject meta-analysis
** Included in group intervention meta-analysis

continued

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TABLE 1
Summary of literature on self-determination interventions (continued)

Study	Sample and Skill	Method (who teaches, where, and how)	Outcomes (direct and generalized)
Wehmeyer & Lawrence (1995)	Fifty-three (53) students 15 to 21 years of age taught in three urban high schools in a variety of settings (mainstream classes, resource rooms, separate classrooms). Taught **decision-making, goal setting and attainment, problem-solving, self-advocacy, self-awareness, self-evaluation**, and communication skills.	A certified special education teacher provided the majority of instruction, which took place approximately 1 hour per week for an entire school year. Used "Whose Future Is It Anyway" curriculum, which features 36 sessions on transition and transition planning. Students are the end user of the curriculum, but can recruit a coach to help them. Strategies and activities on student controlled learning, experiencing opportunities to set goals, define actions, evaluate outcomes, and adjust performance.	**Direct:** There was a significant increase in scores on self-efficacy and outcome expectancy with some effects for gender. There was no significant difference pre- and post-comparison on measures of self-determination or locus of control. Two self-determination scale subscale scores predicted positive self-efficacy and outcome expectancy. **Generalized:** None reported.

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Zirpoli, Wieck, Hancox, & Skarnulis (1994)	One hundred thirty (130) individuals, including parents of children with disabilities and adults with developmental disabilities, who participated in a model empowerment and **self-advocacy** education program in Minnesota.	The Partners in Policymaking program included three major phases. First, eight 2-day training sessions were conducted over a 9-month period. Nationally known speakers presented current information. Supplemental assignments (e.g., making presentations, attending community meetings) were made. Finally, each individual completed a major project (internship, organize meeting with public official) Each training session was devoted to a specific topic or level of government.	**Direct:** The majority of participants rated the program positively. **Generalization:** At 6-month follow-up, the majority of participants reported they had contacted government officials about their needs. The majority had self-advocated or educated others about development disabilities. Anecdotal evidence was reported about participants' networking, increased assertiveness, being better informed, and being better able to access the system and influence policy.

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~~* Single subject~~

~~** Group~~

Note. FSIQ = full-scale IQ score; IEP = individualized education program; ILC = independent living center; MAPS = McGill Action Planning System; SD = self-determination.

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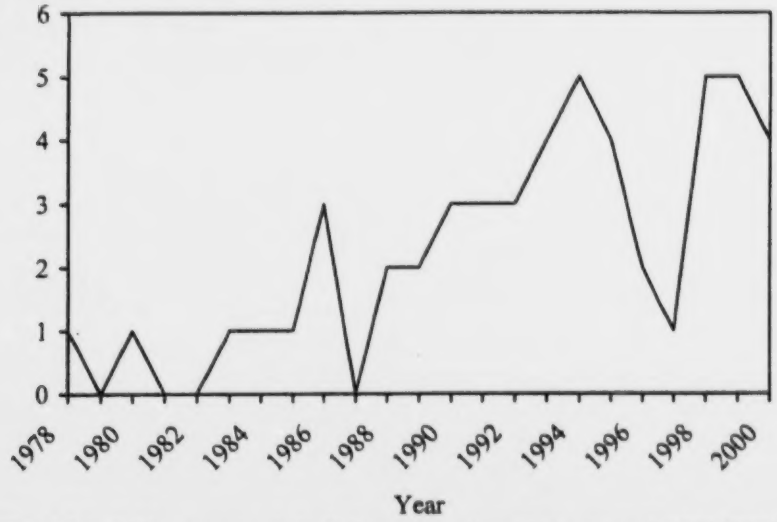

FIGURE 2. *Publication record of self-determination intervention research (1978–2000).*

What Have Been the Effects of Self-Determination Interventions?

The group design studies yielded a total of 100 redundant effect sizes in 9 articles with sufficient information for calculations. The average effect size across these studies was 1.38, with a standard deviation of 3.74 and a standard error of 0.37. The distribution of effect size measurements was positively skewed, indicating that most studies produced small changes in outcome measures. The range of effect size measures was from −2.23 to 26.48, with a median effect size 0.60 and an effect size of 1.49 at the 75th percentile. Using criteria suggested by Cohen (1988), we interpreted the median effect size of this magnitude as reflective of a moderate gain as a result of self-determination interventions. Furthermore, Forness, Kavale, Blum, and Lloyd (1997, pp. 6, 8) argued that the level at which average effect sizes "tend to be considered significant" is usually 0.40 or greater and that an average effect size of 0.535 represented a "substantial refutation" for critics who discredit special education or its effectiveness. About 16% of the effect size measurements were negative, indicating that in about one fifth of the studies outcomes were better for students not receiving the intervention.

Nonredundant means, standard deviations, and numbers of effect sizes across independent articles are reported in Table 4. Two studies reported outcomes reflecting small effect sizes (Adelman, MacDonald, Nelson, Smith, & Taylor, 1990; Nezu, Nezu, & Arean, 1991), one study reported moderate effect sizes (Durlak, Rose, & Bursuck, 1994), and six reported large effect sizes (Bregman, 1984; Cross, Cooke, Wood, & Test, 1999; Powers, Turner, Ellison, Matuszewski, Wilson, Phillips, & Rein, in press; Powers, Turner, Westwood, Matuszewski, Wilson, & Phillips, 2001; Tymchuk, Andron, & Rahbar, 1988; Van Reusen & Bos, 1994). Mean magnitude of effects was moderately related to the number of effect sizes ($r_{xy} = 0.48$) and year of publication ($r_{xy} = 0.63$).

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TABLE 2
Focus and method evident in self-determination intervention research

Characteristic	Number of Single-Subject Studies	Percent	Number of Group Studies	Percent
	N = 25		*N* = 26	
Self-Determination Focus Area				
Choice-Making Skills	15	60.0	4	15.4
Decision-Making Skills	1	4.0	8	30.7
Goal-Setting and Attainment Skills	1	4.0	12	46.1
Individual Self-Advocacy	1	4.0	17	65.4
Problem-Solving Skills	5	20.0	9	34.6
Self-Advocacy Knowledge	2	8.0	3	11.5
Self-Awareness	1	4.0	11	42.3
Self-Efficacy	0	0.0	2	7.7
Self-Observation, Evaluation, & Reinforcement	4	16.0	5	19.2
System Self-Advocacy	0	0.0	2	7.7
Other	1	4.0	8	30.7
Self-Determination Intervention Method				
Teaching	25	100.0	26	100.0
Preference Assessment	7	28.0	0	0.0
Person-Centered Planning	2	8.0	6	23.0
Relationships With Others	2	8.0	6	23.0

Note. Percentages total more than 100 because some studies addressed multiple areas and used multiple intervention methods.

In contrast, the subset of single-subject research studies yielded stronger effect sizes. The 13 single subject studies included 18 interventions and produced a median PND of 95% with a range of 64% to 100%. Seven of the interventions had a PND of 100%, meaning that there were no overlapping data points between baseline and intervention. For eight of the interventions, effect size could also be computed for maintenance data. When comparing the maintenance phase to baseline, one sees that seven interventions had no overlapping data (PND = 100%) and one had a PND of 97.9% (see Table 5.)

Selected features of studies were further analyzed to add to the picture of variables affecting self-determination outcomes. A comparison of the features of group intervention studies with small versus large effect sizes yielded few distinctions. Both groups of studies included individuals with mild mental retardation or specific learning disabilities, or both, as their primary participants. Most studies used a combination of psychometrically sound instruments (e.g., the Arc Self-Determination Scale, Piers-Harris Self-Concept Scale) to measure dependent variables, as well as some researcher-designed measures (e.g., observational rating scales, vignette responses). All of the studies for which effect sizes were calculated included interventions that targeted multiple focus areas of self-determination. The three studies

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TABLE 3
Participant characteristics of self-determination intervention literature

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Descriptor	Number Single-Subject Studies	Percent	Number of Group Studies	Percent
	N = 25		*N* = 26	
Age of Participants				
Under 5 years	1	4.0	0	0.0
5–13 years	5	20.0	5	19.2
14–21 years	9	36.0	20	76.9
Over 21 years	14	56.0	10	38.5
Type of Disability Category				
Mental Retardation				
Unspecified	1	4.0	4	15.4
Mild	4	16.0	8	30.8
Moderate	3	12.0	6	23.0
Severe	12	48.0	0	0.0
Specific Learning Disability	3	12.0	12	46.1
Emotional Disturbance	2	8.0	3	11.5
Developmental Disability	3	12.0	2	7.7
Hearing Impairment	0	0.0	3	11.5
Orthopedic Impairment	1	4.0	4	15.3
Visual Impairment	1	4.0	3	11.5
Autism	1	4.0	2	7.7
Other Health Impairment	1	4.0	5	19.2
Multiple Disabilities	1	4.0	3	11.5
Speech Language Impairment	0	0.0	2	7.7
Deaf/Blind	1	4.0	0	0.0
Traumatic Brain Injury	1	4.0	1	3.8
Dual Diagnoses	5	20.0	4	15.3
Other	1	4.0	2	7.7

Note. Percentages total more than 100 because multiple participants and disabilities included in studies.

with the largest effect sizes (Cross et al., 1999; Powers, Turner, Ellison, et al., in press; Powers, Turner, Westwood, et al., 2001) targeted at least four self-determination focus areas, whereas most of the studies with smaller effect sizes included three or fewer focus areas. In addition, some of the studies with smaller effect sizes featured interventions that spanned a shorter period of time. For example, Nezu et al. (1991) conducted an intervention within five, 1-hour sessions, and the intervention studied by Adelman et al. (1990) was a single session in duration. In contrast, Cross et al.'s (1999) interventions lasted more than 15 sessions, whereas Powers, Turner, Ellison, et al. (in press) and Powers, Turner, Westwood, et al. (2001) conducted sessions over a 4-month period, targeting students as well as parents through multiple intervention techniques.

For the single-subject studies, the strongest possible demonstration of effects using PNDs is to have no overlapping data points between either baseline and inter-

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TABLE 4
Means, standard deviations, and numbers of effect sizes across different articles

Article	ESs	Mean	*SD*
Nezu, Nezu, & Arean, 1991	15	0.23	1.71
Adelman, MacDonald, Nelson, Smith, & Taylor, 1990	8	0.40	0.53
Durlak, Rose, & Bursuck, 1994	6	0.61	0.33
Van Reusen & Bos, 1994	14	0.93	1.40
Bregman, 1984	12	1.35	1.41
Tymchuk, Andron, & Rahbar, 1988	3	1.36	2.96
Powers, Turner, Ellison, Matuszewski, Wilson, Phillips, & Rein, in press	8	1.41	1.07
Powers, Turner, Woodward, Matuszewski, Wilson, & Phillips, 2001	12	1.73	1.05
Cross, Cooke, Wood, & Test, 1999	22	2.82	7.48

ES = effect size.

TABLE 5
Percentage of nonoverlapping data for single-subject studies

		Percentage of Nonoverlapping Data (PND)		
Study	Dependent Variable	Training	Maintenance	Generalization
Bambara (1992)	Percentage of steps performed correctly on self-scheduling	100.0	100.0	
Cooper (1998)	Number of independent choices made during purchasing activity	100.0		
Foxx (1993)	Percentage of questions asked	95.4	100.0	
Foxx (1993)	Percentage of accurate reports of preferences available	100.0	100.0	
Hughes (1996)	Frequency of correct responses to trained PS situations	100.0	100.0	
Hughes (1996)	Frequency of correct responses to untrained PS situations	100.0		100.0
Hughes (1989)	Frequency of correct responses to trained PS situations	96.0	100.0	
Hughes (1989)	Frequency of correct responses to untrained PS situations	100.0		100.0
Jerman (2000)	Percentage of goals attained	72.6	97.9	

continued

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TABLE 5
Percentage of nonoverlapping data for single-subject studies (continued)

Study	Dependent Variable	Percentage of Nonoverlapping Data (PND)		
		Training	Maintenance	Generalization
Kennedy (1993)	Number of microswitch presses when stimulus present	86.0		
Nietupski (1986)	Percentage of time samples engaged in appropriate leisure activity	86.7	100.0	
Prater (1998)	Mean percentage of skills performed correctly	75.0		
Schleien (1986)	Percentage of steps in task analysis performed independently	86.4	100.0	100.0
Sievert (1988)	Percentage of test scenarios correct-discrimination of legal rights	96.9	96.2	
Sigafoos (1993)	Number of choice opportunities provided by staff	76.0		67.0
Sigafoos (1993)	Number of correct responses	68.0		67.0
Van Reusen (1989)	Number of total relevant student IEP contributions	95.8		
Van Reusen (1989)	Number of total positive student IEP contributions	100.0		

Notes: In articles with multiple authors, only the lead author's name is given. IEP = individualized education program; PS = problem solving.

vention or baseline and maintenance. Three of the single subject studies met this criterion of PNDs of 100 for both intervention and maintenance. In the first, Hughes, Hugo, and Blatt (1996) used a self-instruction intervention to teach five adolescents with severe mental retardation to solve problems while working in a vocational high school setting. In the second, Bambara and Ager (1992) taught adults with moderate developmental disabilities to self-schedule leisure activities. In the third, Foxx, Faw, Taylor, Davis, and Fulia (1993) taught six adults with mental retardation to express and recognize their preferences for residential settings. PNDs of 100 were found for the participants' acquisition of the ability to recognize whether there were preferences available during group home tours after small group training sessions. The weakest effects in the single-subject research were found in the studies by Sigafoos, Roberts, Couzens, and Kerr (1993) on teaching staff to provide choice opportunities (*PND* = 76 for staff offering choices and 64 for correct responses by participants with disabilities); by Jerman, Martin, Marshall, and Sale (2000) on teaching adolescents with mild and moderate mental retardation goal attainment (*PND* = 72.6); and, by Prater, Bruhl, and Serna (1998) on using social skills instruction to teach problem solving to adolescents who had a variety of disabilities.

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Conclusions

A review "constitutes the field it reviews" and is not exhaustive; rather, "it is situated, partial, perspectival" (Lather, 1999, p. 3). Like others, this meta-analysis is limited in a number of ways. By including primarily published research, the analysis gains ecological validity (i.e., reflecting outcomes in real-life situations), but loses internal validity in the context of experimental design and control. Similarly, small sample sizes were evident in the group intervention self-determination literature, and the boundaries created by this outcome represent real limitations of this body of work. Regardless, the following conclusions seem warranted:

1. The major intervention themes found in the self-determination literature (based on the 51 total studies found) are self-advocacy and choice making. The most common interventions teach choice making to individuals with mental retardation ($n = 15$ studies) or self-advocacy to individuals with learning disabilities or mild mental retardation ($n = 19$). Overall, the majority of studies included individuals with mental retardation or learning disabilities. Only one or two studies included individuals with sensory impairments (Bowman & Marzouk, 1992; Balcazar, Fawcett, & Seekins, 1991; Hoffman & Field, 1995), autism (Fullterton & Coyne, 1999; Malette, Mirenda, Kandborg, Jones, Bunz, & Rogow, 1992), emotional disturbance (Hoffman & Field, 1995; Wehmeyer & Lawrence, 1995) or traumatic brain injury (Prater et al., 1998). Although all components of self-determination are represented in the current research, the components least studied are self-advocacy knowledge ($n = 5$) and self-efficacy ($n = 2$). Excluding the self-management literature, which contains many examples of goal setting, self-regulation, and self-evaluation (Hughes, Korinek, & Gorman, 1991), influenced the low numbers found for these self-determination components. Furthermore, single-subject studies tended to focus on teaching one skill to individuals with more severe disabilities, and group studies were more focused on teaching multiple skills to individuals with mild disabilities.
2. Self-determination is being taught using a variety of methods. Instructional formats included large group instruction (e.g., Abery, et al., 1995; Bregman, 1984; Castles & Glass, 1986), individual conferences (Adelman et al., 1990; Aune, 1991; Balcazar et al., 1991; Bowman & Marzouk, 1992) and one-to-one behavioral interventions with systematic prompting and feedback as the person practices the skill (e.g., Bambara & Ager, 1992; Browder, Cooper, & Lim, 1998; Cooper & Browder, 1998). In a few instances, the intervention is directed toward staff with concurrent measures of changes for participants with disabilities (Ezell, Klein, & Ezell-Powell, 1999; Lehmann, Bassett, Sands, Spencer, & Gliner, 1999; Sigafoos et al., 1993). Although most studies focus on teaching self-determination skills, a few have promoted self-determination through other forms of support including using preference assessments to enhance choice making (Nozaki & Mochizuki, 1995; Parsons & Reid, 1990; Parsons, Reid, & Green, 1998) and person-centered planning to enhance goal setting (Everson & Zhang, 2000; Malette, et al., 1992; Miner & Bates, 1997).[2] More than 60 self-determination curricula have emerged in recent years, but only 12 studies exist that evaluate these materials (Abery et al., 1995; Bregman, 1984; Cross et al., 1999; Fullerton & Coyne, 1999; Hoffman & Field, 1995;

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Jerman et al., 2000; Powers, Turner, Ellison, et al., in press; Powers, Turner, Westwood, et al, 2001; Stowitschek, Laitinen, & Prather, 1999; Van Reusen & Bos, 1994; Van Reusen, Deshler, & Schumaker, 1989; Wehmeyer & Lawrence, 1995). Although many of these studies are researcher implemented, some reflected results obtained by the classroom teacher or other direct service staff, and most were conducted in school or community settings.

3. Almost half of the studies ($n = 22$) included observations of the participants using self-determination skills in vivo. For example, in Belfiore, Browder, and Mace (1994) and Cooper and Browder (1998), adults with severe disabilities made choices in community restaurants. In Prater et al. (1998), students demonstrated new social skills like problem solving in the classroom. In Van Reusen and Bos (1994), students participated more fully in their IEP conferences. Some of the other methods used to evaluate self-determination interventions included paper-and-pencil assessments ($n = 6$), social validation through parent or teacher reports ($n = 2$), changes in teacher knowledge or performance ($n = 3$), and performance during role play situations ($n = 6$).
4. Only seven studies looked at quality of life outcomes after self-determination interventions. Aune (1991) collected data on postschool outcomes like completing 1 year of college or military training. Balcazar et al. (1991) collected information on increases in the size of the participants' support network. Bowman and Marzouk (1992) reported anecdotal information on obtaining accommodations for employment, housing, academic, and leisure activities. Other researchers collected information on the number of individual goals attained (Jerman et al., 2000; Lehmann et al., 1999) or increased participation in integrated activities (Bambara & Ager, 1992; Malette et al., 1992).
5. Although excluded from this study for methodological reasons, self-management interventions also have demonstrated effectiveness in promoting self-determination (Hughes et al., 1991). Several literature reviews summarize the interventions used to teach self-management, and the outcomes associated with those approaches (Browder & Shapiro, 1985; Hughes et al., 1991; Nelson et al., 1991). However, caution should be used in applying these findings to practice in self-determination, because one of the historical uses of self-management procedures, the reduction of problem behaviors, still relies not on the individual with disability, but on others to identify "appropriate" behaviors. In contrast, Artesani and Mallar (1998) used person-centered planning to develop behavioral support and considered the extent to which the participant was pleased with the outcomes achieved. Interestingly, Artesani and Mallar (1998) was the only study found that focused primarily on challenging behavior.

Implications for Theory, Research, Policy, and Practice

One of the primary purposes of this review was to identify the effectiveness of self-determination interventions. Of the 51 studies located, 22 (43%) were amenable to meta-analysis. However, they also had to be divided between group and single-subject analyses. This split also yielded divergent outcomes with the group studies having modest effects (ranging from –2.23 to 26.48, with a median effect size of 0.60) and the single-subject research showing strong effects (with PND ranging from 64% to 100%, with a median of 95%). The effects in the self-determination literature merit

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application to practice and further investigation. For example, noteworthy effects were evident in a meta-analysis on social skill interventions for students with emotional or behavior disorders (EBD) in which a pooled mean effect size of 0.199 was reported. This outcome was viewed as important because "the average student EBD would be expected to gain a modest eight percentile ranks on outcome measures after participating in a social skill training program" (Quinn et al., 1999, p. 54). Additionally, other important special education effects were evident in a "mega-analysis" of "what works in special education and related services" (Forness et al., 1997, p. 4) in which the average effect size for 18 meta-analyses of special education interventions was 0.535. Larger effects were evident in the self-determination literature.

In developing future applications and research, it is important to consider exactly what and who are reflected in this literature. While the 51 identified studies contained examples of all the self-determination components, most focused on either teaching choice making to individuals with mental retardation or teaching self-advocacy to individuals with learning disabilities or mild mental retardation. Fewer studies exist on self-determination components like goal setting and attainment, self-regulation, self-evaluation, and problem solving outside the literature on changing staff-identified behavior. Aune's (1991) and Jerman et al.'s (2000) work provide examples of how students can learn to set and attain goals ranging from daily objectives to long-term postsecondary goals. Van Reusen and Bos (1994) demonstrate how students can participate in their own IEP meetings to recruit support for achieving these goals. Person-centered planning teams (Malette et al., 1992) and preference assessment (Parsons et al., 1998) provide options for supporting individuals with severe disabilities in having more self-determined outcomes.

Most of this research also has focused on enhancing self-determination for adolescents or adults. The focus on self-determination fits well with transition planning as illustrated by Aune (1991). In contrast, the research to date provides only a few examples of how to teach such skills to younger students. The research includes Adelman et al.'s (1990) example of teaching problem solving and decision making that included children as young as 5 years and a few studies that focused on choice making by children (Dattilo & Rusch, 1985; Kennedy & Haring, 1993; Rietveld, 1983). As Brown and Cohen (1996) note, children also need opportunities to learn self-determination skills in age appropriate ways. This literature also lacks diversity across disability groups. Most applications have employed participants with mental retardation or learning disabilities. Research on self-determination for individuals with autism, emotional disturbance, and sensory impairments may replicate some of the current procedures or identify alternatives that are more appropriate to these disability groups.

Another shortcoming in the self-determination literature is that most studies have focused on improving one or two self-determination skills like choice making, problem solving, self-advocacy. What does not yet exist are many examples of how to help students make progress in a comprehensive self-determination curriculum; however, a number of the group studies included several foci. There is some support that focusing on more components will yield more results—either because there is a synergistic effect, or because there is a great deal of overlap between some of these skills (e.g., problem solving and decision making). To use the analogy of reading, research on specific skills like sight–word reading and finding the main idea is important in planning classroom instruction. There is also the need for research that demonstrates

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how reading programs help students achieve grade level expectations and adult literacy. Similarly, the need exists to demonstrate how to teach students to have a broad range of skills in self-determination. For example, a future challenge like maintaining employment may require using decision making, problem solving, goal attainment, self-regulation, and self-advocacy as well as the ability to discriminate the skills that are appropriate in a given context.

Promoting self-determination for school-age students not only involves teaching new skills, but also creating environments in which students can be encouraged to use those skills. Some of the current studies used ecological interventions in addition to, or in lieu of, skill instruction. For example, some researchers focused on changing staff knowledge or behavior. Ezell et al. (1999) had staff use portfolio assessments so that they would include students in planning and evaluating their own learning. Sigafoos et al. (1993) trained staff to provide more choice-making opportunities for students with severe disabilities. A question for future research is the extent to which this staff training generalizes to providing multiple opportunities for a broad range of self-determined behaviors. For example, do staff who learn to teach a self-determination curriculum create opportunities for students to make their own decisions in the typical classroom routine? Do staff who learn to offer more classroom choices also create opportunities for choice making in other school or community settings?

As researchers look more at ecological variables that enhance self-determination, an issue to consider is whether the research methods themselves reflect a self-determination philosophy in working with teachers and schools. Lehmann et al. (1999) helped school districts set goals for increasing student self-determination using their own interventions. Field and Hoffman (1996) suggest that administrative support for self-determination filters down to the building level, where principals are then more likely to support a teacher who is self-determined in his or her teaching. In contrast, most of the self-determination intervention studies found contain little or no information on how teachers and schools were included in decision making about the research to be implemented. The literature on participatory action research may be useful in considering how to model self-determination strategies in the research method (Meyer, Park, Grenot-Scheyer, Schwartz, & Harry, 1998). For example, researchers may collaborate with teachers and other building staff to plan strategies for the students to use their self-determination skills in the school context and to identify how to collect data on this generalization.

In addition, research on self-determination must include collecting data on procedural reliability. Of the 51 studies reviewed in our research, only 10 (19.6%) collected data on how accurately the intervention was implemented. That lack of data on procedural reliability could call into question exactly what "intervention" was responsible for the changes in student performance noted in this review. For example, a number of studies involved multicomponent packages, yet only a few gathered data on how accurately their intervention was followed. Not knowing how accurately the reported independent variable was implemented may result in less than acceptable applications by teachers with their students. To ensure widespread adoption of strategies to promote self-determination, researchers must gather data on procedural reliability.

Finally, research on self-determination must also include more social validity data. Of the 51 studies reviewed, only 23 (45.1%) collected any social validity data

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(e.g., goals = 4 [7.8%]; procedures = 2 [3.9%]; outcomes = 6 [11.8%]; procedures and outcomes = 11 [21.5%]). It seems almost antithetical to the concept of self-determination to not collect at least some level of social validity data. If we are to successfully teach strategies to promote self-determination, it would seem necessary to gather data on whether or not the goals, procedures, and outcomes of a study are socially acceptable to participants.

In summary, the emerging literature provides an important foundation for promoting self-determination for students with disabilities in current school contexts. The research illustrates most clearly how to teach choice making to individuals with moderate and severe disabilities and self-advocacy to individuals with learning disabilities or mild mental retardation. In contrast, much more research is needed to do the following:

1. *Demonstrate that self-determination can be taught.* The current literature demonstrates that a few self-determination skills can be taught to a subset of individuals with disabilities. We do not yet have information on how to teach more complex self-determination skills (e.g., self-advocacy, goal attainment) to individuals with severe disabilities. We have minimal information on how to individualize this instruction for students with sensory impairments, autism, or emotional disturbance. We have no examples of how to plan and implement a comprehensive self-determination curriculum in which students progress across grade levels. We have only begun to consider ways to promote self-determination through redesigning the classroom and school climate. With those interventions and populations that we currently know less about working with, we also need to know more specifics about best intervention practices. For example, are there benefits of providing instruction over a series of sessions versus several longer ones, or providing interventions that target the individual or the support system? It is also worth considering how interventions used with students with disabilities could be used with other populations (e.g., at-risk students, students for whom English is a second language) who could benefit from self-determination skills.
2. *Demonstrate that self-determination can be learned.* We have strong evidence that individuals with mental retardation can learn to make choices and solve problems (single-subject literature). We have more modest evidence that individuals with mild mental retardation and learning disabilities can learn to self-advocate (group literature). We have only a small amount of information about children acquiring self-determination skills and this is limited to choice making. In the growing popularity of the concept of self-determination that is reflected in both the expanding literature and development of curricula, it is essential to demonstrate that students can master and use these skills. In the absence of such demonstrations, self-determination may become no more than a professional buzzword.
3. *Demonstrate that self-determination makes a difference in the lives of individuals with disabilities.* Only a small number of studies (13%) have included any measures of outcomes of self-determination interventions in the lives of participants, such as new opportunities for school, employment, or leisure activities. To return to an early definition of self-determination, Williams (1989)

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described a "life filled with rising expectations, dignity, responsibility, and opportunity" (p. 17). The risks exist of teaching students a few skills such as choosing between two food items or stating goals at an IEP meeting and missing the big picture of the expanding life opportunities. Future research needs to include outcome indicators to determine how specific interventions influence the quality of the lives of people with disabilities.

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[1] A complete list of search terms is available from the third author.

[2] A large body of research on preference assessment exists (Lohrmann-O'Rourke & Browder, 1998) that is not included here because it did not include measures of other self-determination components (e.g., opportunities to make choices based on identified preferences).

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Running Head: STRATEGIES FOR PROMOTING SELF-ADVOCACY

In press: Intervention in School and Clinic

Successful Strategies for Promoting Self-Advocacy among Students with Learning Disabilities: The LEAD Group

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Abstract

Students with learning disabilities often need to be taught self-determination skills in order to be better prepared for life after high school. This article describes the methods used by one school district to promote self-advocacy and self-awareness skills for students with learning disabilities. Through multicomponent group activities, students learn about their strengths and disabilities, and to advocate for their educational needs and rights. Advocacy skills are also applied to leadership roles, mentoring, and community education activities. Important features that contribute to the success of the program are described.

Successful Strategies for Promoting Self-Advocacy among
Students with Learning Disabilities: The LEAD Group

Self-determination has been increasingly recognized as a critical outcome for students with disabilities as they prepare to transition to the adult world (Field, Martin, Miller, Ward, & Wehmeyer, 1998b; Wehmeyer, 1998). The U. S. Department of Education, Office of Special Education Programs, has funded numerous projects to develop self-determination conceptual models, assessments, and interventions (Ward & Kohler, 1996). Research demonstrates that self-determination is associated with greater quality of life (Wehmeyer & Schwartz, 1998) and more positive adult outcomes (Wehmeyer & Schwartz, 1997).

Field, Martin, Miller, Ward and Wehmeyer (1998a) conceptualize self-determination as follows:

> a combination of skills, knowledge, and beliefs that enable a person to engage in goal directed, self-regulated, autonomous behavior. An understanding of one's strengths and limitations together with a belief in oneself as capable and effective are essential to self-determination. When acting on the basis of these skills and attitudes, individuals have greater ability to take control of their lives and assume the role of successful adults. (p. 2)

Conceptual models of self-determination have included knowing and valuing oneself (Field & Hoffman, 1994); skills and knowledge on topics such as choice and decision making, goal setting and attainment, problem solving, self-advocacy, and self-

awareness (Martin & Marshall, 1995; Powers, Sowers, Turner, Nesbitt, Knowles, & Ellison, 1996; Wehmeyer, 1999); and recognition of the environment's role in supporting self-determination for individuals with disabilities (Abery & Stancliffe, 1996).

A recent review of research literature shows that self-advocacy skills and self-awareness are the subsets of self-determination most often taught to individuals with learning disabilities (Algozzine, Browder, Karvonen, Test, & Wood, 2000). Techniques used to promote self-awareness in students with learning disabilities often include the use of interest inventories, learning style assessments, and experiential activities designed to allow students to "try out" different activities (e.g., careers), as well as knowledge about learning disabilities. Self-advocacy instruction for high school students often focuses on knowledge about rights and responsibilities; effective communication and negotiation skills; identifying and requesting accommodations and modifications; and instruction on participating in and even directing one's own IEP meeting. Some programs help students generalize their self-advocacy skills and knowledge to other environments, such as college or the workplace. The next level of self-advocacy for individuals with disabilities is learning to apply those skills to a larger, systemic level: ensuring that society honors the rights of *all* individuals with disabilities. Creating a society that is responsive to the needs and rights of individuals with disabilities requires that self-advocates develop leadership skills, as well as other self-advocacy skills (Field et al., 1998b).

Many resources exist which teachers can use to help students with disabilities develop self-advocacy skills. In a literature review on self-advocacy instruction, Merchant & Gajar (1997) determined that self-advocacy is most often taught through the use of role play (Durlack, Rose, & Bursuck, 1994); strategies such as I-PLAN (*I*nventory strengths and areas of improvement, *P*rovide information, *L*isten and respond, *A*sk questions, *N*ame your goals) (Van Reusen, Deschler, & Schumaker, 1989); or direct instruction including a description of the target behavior, demonstration, rehearsal, practice, feedback, and practice in a natural environment. Numerous published curricula also include lessons that target self-advocacy skills (Test, Karvonen, Wood, Browder, & Algozzine, 2000). Some of the more often used include the *Self-Directed IEP* (Martin, Marshall, Maxson, & Jerman, 1996) and others in the ChoiceMaker Self-Determination curriculum series; *Next S.T.E.P.* (Halpern, Herr, Wolf, Doren, Johnson, & Lawson, 1997); *Steps to Self-Determination* (Field & Hoffman, 1996); *Take Charge for the Future* (Powers et al., 1996) and *Whose Future is it Anyway?* (Wehmeyer & Kelchner, 1995).

This article describes a program in one school district that uses a number of research-supported practices to successfully promote self-advocacy and other self-determination skills for students with learning disabilities called Learning and Education About Disabilities (LEAD). LEAD was selected as one of six exemplar sites as part of the Self-Determination Synthesis Project, a comprehensive research synthesis project funded by the Office of Special Education Programs, Department

of Education. LEAD emerged from a nationwide nomination process as a program that focuses on critical components of self-determination, emphasizes the application of relevant skills beyond the classroom, and helps students achieve positive self-determination outcomes. (More information about the exemplar sites and the entire project is available on the project web site at http://www.uncc.edu/sdsp.)

Background

LEAD began in 1996 in response to concerns expressed by high school students with learning disabilities. Students and parents had reported that some general education teachers were reluctant to provide accommodations and modifications. Some students were having difficulty coping with their disability, and a guidance counselor who worked with several students with learning disabilities noticed that they lacked the self-awareness and disability awareness necessary to effectively explain their needs to teachers. The guidance counselor formed a support group with the intent of helping students better understand their learning disabilities and more effectively advocate for their academic needs. Since its inception, the group has grown from 4 to include as many as 17 students each academic year. LEAD participants meet during a class period and receive course credit that counts toward graduation. The group is co-led by the guidance counselor and a special education teacher. While the majority of LEAD students are diagnosed with learning

disabilities, students with Attention Deficit Disorder and hearing impairments have also been members.

LEAD Philosophy and Content

The primary tenet of the LEAD group is that of student ownership. Students determined the group's mission statement, which includes, "increasing the level of understanding and awareness of the social, academic, and emotional aspects of learning disabilities…We focus on not allowing disabilities to become liabilities." The group includes four elected officers who meet weekly to determine the group's upcoming activities. The group's co-leaders share the philosophy of student ownership of the educational process and believe in promoting leadership opportunities.

To accommodate the needs of a growing group with varied backgrounds, LEAD now consists of two separate groups: one for ninth graders and an advanced group. Both groups have a weekly schedule that includes two days devoted to educational activities, one day for mentoring, and a fourth day for a support group meeting (see Figure 1). All members of both groups participate in community presentations. There is some flexibility in the schedule in order to plan for community presentations and address unexpected issues that arise. Each of the main content areas of LEAD is described below.

<Insert Figure 1 about here>

Self-awareness and disability knowledge. The LEAD group discovered early that while students had developed an awareness of their feelings about having a learning disability, they did not know themselves educationally. Because self-awareness is a critical foundation to effectively being able to advocate for oneself, the co-leaders decided to focus on helping students first become more aware of themselves academically. In order to help students understand themselves better, students' cumulative folders, with IEPs, test results, and other data, became the class' textbook, for use in discussing academic strengths and weaknesses. A psychologist taught the students about intelligence and achievement testing and how to understand their own IQ test results. Students not only benefited from learning that they are highly intelligent, but they also learned how their learning strengths and weaknesses are reflected in the IQ subtest scores. Students who had also taken personality inventories learned to interpret their information as a means of better understanding their strengths and areas in which they need support. The unit on the evaluation and interpretation of test data (see Table 1), which spans six class sessions, has been extremely well received by LEAD students and their parents.

<Insert Table 1 about here>

Equipped with knowledge about their strengths and needs, LEAD participants decide which additional topics they wish to cover; the co-leaders determine how best to deliver the information and promote the related skills. Using a combination of personal knowledge and published resources (e.g., Sousa, 2000), the

co-leaders have created their own curriculum to include topics such as brain differences, the definition and diagnosis of different types of learning disabilities, accommodations and modifications, legal rights under IDEA and ADA legislation, facilitating IEP and 504 meetings, learning styles, multiple intelligences, and other similar topics. Adults with learning disabilities serve as guest speakers, providing students with information about how they have learned to navigate the adult world.

The disability-related knowledge and self-awareness that LEAD students develop is then used as a basis for their self-advocacy. By knowing what accommodations or modifications they require, students can brainstorm as a group how to best approach specific teachers with a request for an accommodation. Group members often talk through an entire scenario or use role-playing to practice their self-advocacy skills. One of the group's co-leaders often accompanies freshmen on their first visit with a teacher to discuss accommodations. If a request is not successful, the co-leaders and group members will help the student develop other ideas for negotiating with the teacher. As students gain experience in negotiating with their teachers, the co-leaders remove themselves from those conversations and the group members serve as a sounding board for problematic requests. The special education teacher who co-leads the group works individually with teachers to develop the supports necessary for students' accommodations; however, the students are responsible for negotiating accommodations that do not significantly increase teachers' responsibilities.

LEAD students further refine their communication skills using an exercise in which one of the group's co-leaders plays the role of a "non-believer," often a skeptical teacher or community member who claims not to believe in learning disabilities or the need for accommodations. In this "devil's advocate" role, the co-leaders offer objections, stereotypes, misinterpretations, and other challenges to the students as they develop counterpoints and enhance their ability to articulate their disability. For example, a statement about the students looking "normal, not handicapped" might prompt a response about students' specific learning problems and how they impact the quality of their academic work. The co-leader might then make further objections based on the quality of students' responses that then require the students to explain themselves more effectively or add details that they omitted from their previous responses.

Support group. Through support group meetings, LEAD students discuss the challenges they face in coping with their disabilities. The support group component of LEAD has many of the common characteristics of effective group therapy (Corey & Corey, 1997). Group members provide a level of empathy that they believe individuals without disabilities are incapable of providing. They help each other cope with feelings such as shame and anxiety, and build the confidence they need to approach teachers about accommodations. Group members also challenge each other at times when individuals try to hide their disability or do not take

opportunities to self-advocate. The group relies less on the co-leaders as facilitators for support group discussions compared with educational activities.

Community presentations. The LEAD group frequently makes presentations to parents, students, pre-service special education teachers, and teachers in nearby school districts. The group has also presented at state and national learning disabilities conferences and to their own high school faculty. The purpose of the presentations is to educate others about learning disabilities, but the scope of each presentation varies according to the audience. For example, group members can respond to questions from teachers about what teachers can do if they suspect a student has a learning disability, or how teachers can help their students become better self-advocates. Table 2 contains a sample format for a presentation to teachers.

<Insert Table 2 about here>

Presentations to the business community include general information about young adults with learning disabilities and a panel discussion in which business leaders ask students about issues such as disclosure and confidentiality. LEAD participants also ask business representatives about how they compensate for weaknesses and accentuate their strengths in the workplace.

One particularly dramatic element of most LEAD presentations is a poem written by one of the LEAD group students (see Table 3). Audience members are given a handwritten copy of the student's first draft of a poem, followed by a later

version of that poem after accommodations (e.g., use of computer spelling and grammar check features) were provided. This exercise helps audience members understand how a student with learning disabilities views the world; the poem's author speaks about how he realizes his mistakes, but is unable to correct them. Students typically spend a few minutes during LEAD class prior to each presentation determining the schedule and priorities for that presentation. Continuing the philosophy of student ownership, the group's co-leaders do not participate in the planning session, nor do they participate in the presentation itself.

<Insert Table 3 about here>

Community presentations also serve as teaching opportunities as each presentation is videotaped and reviewed in subsequent LEAD class meetings. Students have an opportunity to critique their performance by identifying the strengths of the presentation, brainstorming ways to more effectively communicate answers to unexpected or complex questions from the audience, and allowing students to reflect on things that they wished they had said. Even in those cases where students believe they have answered well, the group reviews segments of the videotape and discusses ways in which they might have made their point more effectively.

Mentoring. Beginning in LEAD's third year, students decided they wanted to help elementary and middle school students benefit from their own experiences in navigating the educational system. LEAD members worked with co-leaders to

develop ideas for building rapport with younger students and age-appropriate methods for delivering materials and messages. In the current mentoring approach, two LEAD members, a ninth grader and an upperclassman, are paired with small groups of students with learning disabilities in two elementary schools and one middle school.

While mentoring activities initially emphasized structured educational activities about disabilities, LEAD students discovered that a "big sibling" approach was a more effective way to informally educate younger students. Increased emphasis has been placed on building rapport and enhancing younger students' self-esteem. The LEAD mentors meet with younger students for an hour each week at the younger students' assigned schools for conversations about issues raised by the younger students. Mentors take opportunities to normalize the younger children's experiences and point out their strengths in the course of discussion. For example, if an elementary student says he is embarrassed about needing extra help in reading, the mentor might say that she also needed extra help when she was in elementary school, that she was still a "normal" person, and that she was glad she had received help because she now relied on those reading skills in high school. Middle school mentors start talking about the LEAD group in the second semester in order to help rising ninth graders decide whether they want to join the group.

Implementation Issues

While the LEAD group has enjoyed strong administrative support from the beginning, a few barriers were encountered in the process of starting the LEAD group. The primary difficulty was student scheduling; numerous conflicts made it difficult to find time for the group to meet. Instead of being structured as a club or part-time seminar, the class was turned into a full-time elective course that students could choose as an alternative to other electives often chosen by students with learning disabilities.

Another roadblock encountered by LEAD early in the process was the disbelief among some general education teachers that learning disabilities even exist, and that LEAD would be a beneficial class. As teachers have retired from the school, students from LEAD have met with the new teachers to help them understand the group's purpose. The emphasis placed on student responsibility for accommodations has also minimized the impact of accommodations on general education teachers' workload, dispelling one of the myths held by some teachers.

Effective Practices

LEAD students, parents, and teachers all agree that LEAD has helped students become effective advocates, both for themselves, as well as all individuals with learning disabilities. Some of the critical factors that have helped LEAD be successful follow:

- ***Introducing self-determination component skills in an effective sequence.*** LEAD students first need to understand their strengths, challenges, learning styles, and interests before explaining them to others. As students become more self-aware, self-advocacy skills such as communication and negotiation are introduced. The additional skills of communicating to large groups and mentoring younger students build upon the LEAD students' earlier self-awareness and self-advocacy skills.
- ***Maintaining a philosophy of student ownership, with an appropriate balance of support, guidance, and independence***. Student ownership of the LEAD group's tasks and objectives has been of primary importance since day one. The co-leaders help students enhance their self-awareness and self-advocacy skills within the context of the students' interests. At the same time, younger students are not expected to immediately grasp the concepts and develop effective advocacy skills without some guidance and coaching. One of the group's co-leaders described the process of transferring ownership to students in the following way:

> For ninth graders, we hold both their hands while they're here. By the time they're in tenth grade we have released one [hand]. By the time they're in eleventh grade we're not holding them any more. By the time they're in the twelfth grade we're patting them on the back and telling them, 'good luck'.

The LEAD group members have adopted a similar philosophy as they help students in nearby districts develop their own groups. LEAD students do not give the other students the "answers" about what accommodations they can ask for, because they believe each student has to determine that for himself or herself.

- ***Effective modeling of self-advocacy skills.*** Modeling functions in several different ways for LEAD. The group's co-leaders, each of whom has a disability, are models for the LEAD students. Within the group, upperclassmen with better-developed self-awareness, leadership and self-advocacy skills serve as models for the underclassmen. All of the LEAD group members serve as models for the elementary and middle school students that they mentor, as well as for students with learning disabilities in their high school who do not participate in LEAD.
- ***Opportunities for improving self-advocacy skills embedded in activities outside the classroom.*** When invited to present to the National Learning Disability Association Conference in Washington DC, LEAD participants had to present their plan to the Board of Education in order to receive approval for the trip. Graduating seniors who expressed interest in attending college visited campuses and talked with representatives from the Disability Services offices. The group's co-leaders observed and videotaped these interactions in order to help the students improve their ability to assess the availability of necessary

supports at the colleges they were considering. Creativity is required of the group's co-leaders as they identify these teachable moments for a group that determines their own curriculum.

- ***Creating a school culture that supports self-advocacy***. School and district administrators have become increasingly supportive of LEAD as they have visited with the students during class and observed their presentations to community groups and teachers. The district Superintendent became a strong advocate for the group after accompanying them to the conference in Washington DC; now he helps them form relationships with the local business community. The Principal's support of the group led him to allow the students to present to the high school's entire faculty during an inservice day. The group's co-leaders also work one-on-one with general education teachers on ways to support students' self advocacy and respond to students' requests for accommodations. The special education teacher who co-leads the group also co-teaches mainstream English classes. The co-leader models methods that promote students' self-advocacy within the classroom, and the two teachers have also collaborated to develop instructional methods that benefit students with and without learning disabilities. For example, they simultaneously deliver instruction differently based on students' learning styles, and allow all students in the class to choose which method they prefer.

Implications for Practitioners

The LEAD group has successfully improved self-awareness, self-advocacy, and leadership skills among high school students with learning disabilities and other disabilities. While developing their own skills, they have also had a significant impact on others:

> What I've gotten out of LEAD, out of the kids…is that self-examination, that self-assessment, and it's forced me at 55 years old, I'm sitting down re-looking at my strengths and weaknesses through the eyes that they look at themselves with – through tough eyes. (School District Superintendent)

The students in LEAD have raised the community's consciousness about individuals with learning disabilities, and helped younger students understand their own disabilities and how they can impact their educational experiences.

Implementing this innovative program has required ambition and creativity on the part of the students and co-leaders, and support from administrators and parents. Students who participate in LEAD must have some degree of willingness to be open and acknowledge that they have a disability in order for the supportive and educational parts of the program to be effective. Even without all of these successful elements in place, there are certain parts of LEAD that could apply to any program designed to enhance students' self-advocacy skills. Changes to the LEAD group structure and content could be modified depending upon the students who would participate. For example, programs with fewer college-bound students might place

greater emphasis on rights assured under the Americans with Disabilities Act and the Workforce Investment Act, and on self-advocacy in occupational settings. The LEAD group students expressed a definite bias against using prepared lesson plans and published curricula, but students at other schools may be more comfortable with the use of formal instructional materials. LEAD students have decided to write one participant's 504 Plan as a group; the same exercise could be used to help members develop their IEPs. Younger students who enter LEAD with less knowledge about learning disabilities could participate in a semester-long, intensive education component before integrating fully with the older students. The leadership structure of the LEAD group could also be adapted from a traditional four officer structure to one based on the group's functions in order to allow more students the opportunity to assume leadership roles within the group.

While it may be challenging for educators to allow students to have control over the curriculum, student-directed work on self-awareness, leadership, and self-advocacy will ultimately be more effective in promoting those skills than will teachers providing instruction in what they *presume* to be students' needs. Teachers can still determine how to deliver instruction based on students' self-identified needs and preferences. Ultimately, LEAD has succeeded in helping students develop not only the critical skills of self-advocacy and self-awareness, but also fostering an altruistic philosophy which, when combined with leadership skills, can be effective in changing society's views of individuals with learning disabilities.

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Author's Notes

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Table 1

Sample LEAD Lesson Plan Outline: Evaluation and Interpretation of Test Data

Testing Background

1. Reliability
2. Validity
3. Percentiles

Woodcock Johnson

1. Subtests
2. What do they measure?
3. How would it apply to school subjects?
4. What do the scores mean?

WISC/WAIS

1. Full Scale Score
2. Performance subtests
   - Discussion of each subtest
   - How do the performance subtests indicate strengths and weaknesses?
3. Verbal subtests
4. Discussion of each subtest
5. How do the verbal subtests indicate strengths and weaknesses?

Table 1 (continued)

Sample LEAD Lesson Plan Outline: Evaluation and Interpretation of Test Data

Review of what testing means

1. How important are the tests?
2. Do the tests determine your success or failure?
3. How is eligibility determined?
4. Is it worth the time?
5. Appropriate accommodations based on test data (lead-in to next unit)

Table 2

Sample Format of LEAD Group Presentation to Teachers

Introduce agenda
Read LEAD mission statement
Definition of Learning Disability
Individual introductions: Name, type of problem or deficit, and a specific area of strength or skill
Poem (see Table 3): handout and discussion
Example accommodations
Question and Answer session, with group president or leader acting as moderator

Table 3

Poem Used to illustrate the impact of accomodations on a student's writing

Original poem
Aloene loste wakling down the steert of this urben jungele. Whatein fore the love of my life not whet nowen too call me from behinded It's not no colldnot sher if it day or night just whored wher I an going Alon and lost walking in the erbine jungle on to a road off inlitamet An intlitament of sperit to become mor than it is nowe too grwe past the brondres that logec has in slaved it in. I her the bet of the stepe as my feet shelf me along the street of the jungle 1,2,3 the Bat of the hert as it is awankend with now relization of the futer and the past. What Ive inconted and hop to incotedr on joner of lefe not wheat past it forst mark of trumph.
Poem with accommodations provided
Alone, lost walking down the streets of this urban jungle Waiting for the love of my life not yet known To call me from behind. It's hot, not cold, and not sure if it's day or night Just worried where I am going alone and lost. Walking in the urban jungle on a road to enlightenment. An enlightenment of the spirit To become more than it is now. To grow past the boundaries that logic has enslaved it in. I hear the beat of the steps as my feet shuffle me along The streets of the jungle. One, two, three, the beat of the heart As it is awakened with new realizations Of the future and the past. What I have encountered and hope to encounter on a journey of life not yet past its first marker of triumph.

Figure 1. Sample week of LEAD activities

Ninth grade group				
Monday	Tuesday	Wednesday	Thursday	Friday
No class	Education day • The referral process	Support day • Informal discussion led by counselor	Education day • Begin new unit: Evaluation and interpretation of testing	Mentoring • Mentor pairs at other schools
Advanced group				
Monday	Tuesday	Wednesday	Thursday	Friday
Officers meet • Plan for next academic year • Plan mentoring activities	Education day • Review video of previous presentation, evaluate performance • Discuss classroom accommodations that can prevent students from needing to go to the resource room	Support day • Informal discussion led by counselor	Education day • Revise community presentation to include more about what LEAD membership entails	Mentoring • Mentor pairs at other schools

Running Head: SELF-DETERMINATION IEPS

In press: Teaching Exceptional Children

Self-Determination Instruction in Special Education: Getting SD Into the IEP

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Self-Determination Instruction in Special Education: Getting SD Into the IEP

There has been a major focus on promoting self-determination skills in special education over the past decade. Special education literature has offered a wide array of information on self-determination including definitions and conceptual analyses (Ward, 1988; Wehmeyer, 1992; Martin, Huber-Marshall, & Maxton, 1993; Browder, Wood, Test, Algozzine, & Karvonen, in press), approaches for promoting self-determination (Martin & Marshall, 1995; Pocock, Lambros, Karvonen, Test, Algozzine, & Wood, in press; Salembier & Furney, 1994), models for instruction (Abery, Rudrud, Arndt, Schwauben, & Eggebeen, 1995; Field & Hoffman, 1994), and both quantitative and qualitative intervention studies (Algozzine, Browder, Karvonen, Test, & Wood, in press; Allen, Smith, Test, Flowers, & Wood, in press; Cross, Cooke, Wood, & Test, 1999). Self-determination was first written into law in the Public Housing Act of 1988, and quickly followed in other major pieces of legislation written for individuals with disabilities, including the Rehabilitation Act of 1992 and 1998 and the Individuals with Disabilities Education Act of 1990 and 1997. Defined by Wehmeyer (1992, 1996), as "acting as the primary causal agent in one's life free from undue external influence or interference", self-determination was termed the ultimate goal of education by Halloran (1993). Since the late 1980s, the U.S. Department of Education, Office of Special Education Program (OSEP) has promoted development and dissemination of programs and materials, and information on self-determination by offering discretionary funding opportunities for research and demonstration projects. Self-advocates with disabilities have been demanding self-determination as adult citizens and have been a major force behind the federal initiative at both the adult and school levels. In addition, research has demonstrated a positive relationship between self-determination and improved post-school outcomes (Wehmeyer & Schwartz, 1998) which is also contributing to

the tidal wave of support for promoting self-determination in education and adult disability services.

Although there has been a major focus on promoting self-determination and over 60 curricula on self-determination have been published (Field, Martin, Miller, Ward, & Wehmeyer, 1998; Test, Karvonen, Wood, Browder, & Algozzine, 2000), there remains a significant lag in the degree to which self-determination content is being reflected in the goals and objectives of students' individualized education plans (IEPs) and consequently, in classroom instruction. For example, Wehmeyer and Schwartz (1998) conducted a content analysis of transition related goals written for 136 students with mental retardation. Out of 895 IEP transition goals analyzed, none were found to target self-determination skills. Agran, Snow, and Swaner (1999) found that although a majority (75%) of teachers of transition-aged students rated self-determination as a high priority, 55% indicated that self-determination goals were not included in students' IEPs or only in some students' IEPs. And more recently, Wehmeyer, Agran, and Hughes (2000) found only 22% of secondary level teachers who reported writing self-determination goals in IEPs for all of their students, while 47% included one or more SD goals for some students, and 31% did not include them at all. One reason for the lack of self-determination IEP goals could be that teachers have not been trained in how to write self-determination goals and objectives. Therefore, the purpose of this paper is to explore ways to increase the inclusion of self-determination and self-advocacy *goals and objectives* in IEPs as a first step to increasing their inclusion in classroom instruction.

Self-Determination Synthesis Project .

The Self-Determination Synthesis Project (SDSP) was funded in 1998 to synthesize and disseminate best practices related to promoting self-determination for students with disabilities.

To this end, the purpose of the project was to improve, expand, and accelerate the use of this knowledge by the professionals who serve children and youth with disabilities, parents who rear, educate, and support their children with disabilities, and students with disabilities. To accomplish these tasks, the SDSP Project conducted an extensive review of the literature, a meta-analysis to determine what levels of outcomes have been achieved using self-determination interventions, (Algozzine, Browder, Karvonen, Test, & Wood, in press) and qualitative case studies of six school based programs

One of the findings of the SDSP, is that whenever self-determination is discussed in relation to the IEP, it is usually with regard to increasing student involvement/leadership in the IEP and transition planning processes, (i.e., achieving self-determination by involving the student in the IEP process) (Field, Martin, Miller, Ward, & Wehmeyer, 1998; Martin, Huber-Marshall, Maxton, Jerman, & Miller, 1996; Powers, Turner, Matuszewski, Wilson, & Loesch, in press; Wehmeyer, & Lawrence, 1995). Although we believe student involvement in the development of IEPs and participation and/or leadership in the IEP meeting process is essential, we also feel it is critical for self-determination to be specifically targeted in the IEP and transition plans in the form of goals and objectives.

To assist teachers with developing IEP goals and objectives targeting self-determination, sample goals and objectives are provided in this manuscript. Some goals and objectives were gathered from the six model school programs that were visited for the qualitative component of the SDSP. Others have been written for fictional students derived from a composite of students solely for this manuscript. That the student should be involved and/or taking a leadership role in developing his or her own IEP and transition goals, is a given throughout this discussion.

Self-Determination in IEPs

Information that will be important for teachers to have to promote the inclusion of self-determination goals and objectives in the student IEP includes knowing what skills comprise self-determination, deciding what skills to teach to individual students, and knowing where to find instructional materials to provide instruction (i.e., self-determination curricula). This paper will address the first two of these issues, as well as offer some examples of self-determination goals and objectives that might be included in an IEP. Test et al (2000) provide information that will be helpful for teachers thinking about choosing a self-determination curriculum.

Knowing What to Teach: Skills That Comprise Self-Determination

The first step to increasing the presence of self-determination in the IEP and subsequently, classroom instruction is to realize that self-determination is a complex construct that is comprised of a combination of skills and knowledge. Wehmeyer, Kelchner, and Richards (1996) used factor analysis to empirically validate one conceptualization of the construct of self-determination and broke self-determination down into teachable, measurable skills. Wehmeyer, Agran, and Hughes (1998) further defined these measurable skills as the following 12 components: choice-making, decision-making, problem-solving, independent living (risk taking and safety skills), goal setting and attainment, self-observation, evaluation, and reinforcement, self-instruction, self-understanding, self-advocacy and leadership, positive self-efficacy and outcome expectancy, internal locus of control, and self-awareness. In our review of articles on self-determination, the SDSP developed a list of definitions for each of these components (see Table 1).

It should be noted that teaching these component skills will not guarantee that every individual student will achieve self-determination. The environment remains a critical factor in self-determination being achieved, in that the people around the individual with a disability must

interact with students with disabilities in ways that encourage generalization of self-determination skills and behaviors, honor the choices and decisions made, and support the goals that are set by the individual. Therefore, when a teacher makes the decision to promote self-determination skills with her students, she may also need to commit to some level of school staff and parent education. By preparing others in addition to the student, the teacher can ensure that a student's emerging self-determination skills will have a receptive audience.

Deciding Which SD Skills to Teach

The second step a teacher needs to address is deciding which skills to teach; this may be best accomplished by assessing student self-determination skills. There are numerous methods and materials available that can be used to assess a student's knowledge and skills related to self-determination. Assessment approaches include (1) reviewing records and background information, (2) interviewing the student and/or others, (3) observing the student, (4) using of norm-referenced or criterion-referenced tests (Wehmeyer, & Kelchner, 1995, (5) using curriculum-based assessment techniques, and (6) creating a portfolio of skills (Field, Martin, Miller, Ward, & Wehmeyer,1998). A few examples of published assessment instruments include: (1) the Arc's Self-Determination Scale, (Wehmeyer, 1995), (2) the ChoiceMaker Self-Determination Transition Assessment, (Martin & Marshall, 1996), (3) the Self-Determination Assessment Battery, (Hoffman, Field, & Sawilowski, 1995), (4) the AIR Self-Determination Scale (Wolman, Campeau, DuBois, Mithaug, & Stolarski, 1994), and (5) the Minnesota Self-Determination Scales (Abery, Elkin, Smith, Springborg, & Stancliffe, 2000). Several self-determination assessment instruments have been developed to accompany curriculum packages focused on teaching self-determination skills (e.g., ChoiceMaker) while others such as the Arc's Self-Determination Scale and the AIR Self-Determination Scale (Wolman, Campeau, DuBois,

Mithaug, & Stolarski, 1994) were developed as stand alone instruments. The Arc's Self-Determination Scale is designed for self-reporting by adolescent students with disabilities, while other assessments gather data from a combination of sources including the student, teachers, and parents. Some self-determination assessment instruments also offer ways to evaluate the environment to determine to what degree there are opportunities for students to act in self-determined ways and to what degree the environment is receptive to students self-determined behavior, (e.g., the Minnesota Self-Determination Scales: Abery, Elkin, Smith, Springborg, & Stancliffe, 2000). Although all of the assessment instruments offer information that can be used to develop goals and objectives for instruction, a few that specifically address this step are the AIR Self-Determination Scale and the ChoiceMaker Self-Determination Assessment.

Teacher made assessment measures. In the absence of a published self-determination assessment instrument, there are several steps a teacher can take *with a student* to assess their strengths and needs for the purpose of developing IEP goals and objectives. For example, a teacher can construct a general purpose teacher-made checklist or questionnaire based on any one or more of the self-determination components in Table 1. If you were interested in teaching choice-making, some questions might include: "What kinds of choices does the student make?", "When given a choice between two or more options, does the student indicate a choice?", "How does the student indicate her or his choice?", "How does the student assess different options in preparation for making a choice?", "Does the student understand that there are consequences associated with the choices that we make?", "Can the student use experiences from past choices to make better choices in the future?" To determine where to begin instruction with regard to a student's self-awareness, the teacher may ask questions pertaining to how well a student can articulate things about him or herself, for example, can she/he identify things he likes and

dislikes, people he likes to be to be with, places he likes to go, things s/he likes to do, and personal strengths and weaknesses.

Where to begin. As for deciding which skill component or components to start with, the teacher might want to consider the age of the student and current and future environments of the student. Doll, Sands, Wehmeyer, and Palmer (1996) examined the typical ages at which children begin to exhibit certain self-determination skills. First, they found that while very young children (ages 2-5) exhibit some here-and-now choice making skills, they have limited knowledge of their options and limited ability to reflect on past choices. Second, children between the ages of 6 and 8 begin to identify and solve simple problems and can generalize solutions across different problems and to future problems. However, they still have trouble learning from consequences of prior choices and require adult guidance to set and work toward goals. Third, children between the ages of 9 and 11 begin to set goals and use those goals to determine their actions and can recognize and make corrections when actions are not working to achieve their goal. Finally, students over the age of 12 can make decisions, generalize problem-solving skills, set and focus on long-term goals, and evaluate and change plans as needed to achieve goals.

The teacher will always want to consider teaching skills based on current and future environments where the student will need to function. For example, teaching the student to take the lead in her IEP meeting may help her take the lead in the rehabilitation counselor's office when it comes time to set career goals and plan services. Teaching one student about his rights as a student covered by IDEA and how to be a self-advocate with his teachers, may help him when he needs to learn about the Americans with Disabilities Act (ADA) and needs to practice his self-advocacy skills with an employer. In some cases, given the particular needs of the

student, her age and abilities, the teacher may find that it makes sense to skip teaching about IDEA and focus on teaching the ADA, the Rehabilitation Act, and Social Security. A transition-aged student learning to take more responsibility for her learning by selecting her elective courses, choosing what academic areas to work on each day, and in some systems, making decisions about her graduation options, can then use those skills when making decisions about what services she may want to access as an adult. For students with more severe disabilities, teachers will need to provide specific training in future environments to ensure the transfer of skills.

Writing Self-Determination Goals and Objectives

The final step is to write specific goals and objectives designed to promote self-determination. Table 2 contains examples of IEP goals and objectives targeting at least one of each of the self-determination skill components. Most are written as "I" statements from the student's perspective. While goals and objectives have traditionally been written in third person, goals and objectives written in first person imply that the student is integrally involved in the planning and decision making process pertaining to his or her IEP. It also suggests that a student has accepted a personal responsibility for achieving his goals. Since it is expected that students are involved in all phases of the IEP process, the use of "I" statements in the IEP document is appropriate and indicates the student's role as the key participant. Assisting students to develop their own goals and objectives as "I" statements in the IEP can and should be generalized to all goals, not just those targeting self-determination skills.

IEP goals can be written to target content to be learned, (e.g., "I will learn the skills I need to advocate for myself by taking the Self-Advocacy class") or to target content or skills to be applied in real situations, (e.g., "I will complete three job shadowing experiences and report

my preferences to my career teacher"). For example, if a student wanted to begin self-advocating for his own teaching accommodations as specified on his IEP, he may first want to learn about his interests, his strengths and weaknesses, and how he learns best.

Goal: I will learn more about my particular learning needs.

Objective#1: I will learn about my learning needs by reviewing my IEP document.

Objective #2: I will learn about my disability.

Objective #3: I will learn about various accommodations that might be used to assist me to learn more better.

Then he may want to apply what he has learned by being able to explain his disability and what teaching accommodations he needs to his classroom teachers.

Goal: I will explain my disability and ask for learning accommodations that work for me.

Objective #1: Given in-class practice, I will explain my disability to another person.

Objective #2: Given a menu of options of learning accommodations, I will try various options and record which ones work best for me.

Objective #3: Given in-class practice, I will negotiate with my teacher to allow accommodations that facilitate my learning.

In many cases, when students begin to participate more in their IEP planning and implementation, they may need to learn content related to what an IEP is, the different parts of an IEP, about their specific learning needs, and their rights as a student under IDEA. Skills that they will use as they assume a more active role in the IEP process may include: introducing IEP team members, summarizing their present level of performance, expressing their future goals, asking questions of meeting participants, and others (Martin, Huber-Marshall, Maxton, Jerman,

& Miller, 1996). All of these skills will contribute to their being more self-determined adults and may transfer directly from the IEP process to the rehabilitation counselor's office for the development of the Individual Plan for Employment, or to a college's disability services office for accommodations in a post-secondary education environment.

Conclusion

Research tells us that there is a positive relationship between self-determination and improved post-school outcomes (Wehmeyer & Schwartz, 1998). Research also tells us that teachers view self-determination as an important skill (Agran, Snow, & Swaner, 1999; Wehmeyer, Agran, & Hughes, 2000). Unfortunately, this same research also tells us that teachers are not including these important skills in student IEPs.

We hope that the suggestions and examples provided in this article will encourage teachers to incorporate self-determination skills into the IEPs of all students. But more importantly, having the skills listed as goals and objectives in their IEP will increase the likelihood that students will receive instruction that will enhance their abilities to be self-determined citizens.

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Table 1
Self-Determination Component Definitions

Self-Determination Components		
Abbrev.	Component Element	Operational Definition
CM*	Choice-making skills	Making a choice involves the indication or communication of a preference from among two or more options. Teaching choice-making skills involves teaching students to identify interests and preferences and to appropriately select an option based on those preferences and interests.
PS*	Problem-solving skills	A problem is a task, activity, or situation for which a solution is not immediately known or attainable. Teaching problem-solving skills involves teaching students to identify and define a problem and to generate potential solutions.
DM*	Decision-making skills	Decision-making is a process of selecting or coming to a conclusion about which of a set of potential solutions is the best. Teaching decision-making skills involves teaching students to utilize problem-solving skills.
GSA*	Goal setting and attainment skills	Goal directed behavior involves actions that enable a person to reach a specified preferred outcome. Teaching goal setting and attainment skills involves teaching students to define and articulate a goal, identify current status in relation to the goal, develop an action plan, and evaluate progress toward achieving the goal.
SG*	Self-regulation skills • self-observation • self-evaluation • self-reinforcement	Self-regulation refers to the human response system that enables individuals to examine their environments and their repertories of responses, and to revise their strategies as necessary. Teaching self-regulation skills includes teaching students to solve problems or employ self-management strategies. (e.g. anger control)
SA*	Self-advocacy • knowledge • individual • system	Self-advocacy means to advocate on one's own behalf, while leadership skills are those needed for a person to lead, guide or direct. Teaching self-advocacy and leadership skills involves teaching students about their basic rights and responsibilities (knowledge), how to use self-advocacy skills and how to be effective team members (at an individual and/or system level).
SW*	Self-awareness or self-knowledge	Self-awareness or self-knowledge refers to a comprehensive and reasonably accurate knowledge of one's strengths and limitations. Teaching self-knowledge involves teaching students to identify common psychological and physical needs of people, recognize differences among people, and understand how one's actions influence others.
SE'	Self-efficacy	Self-efficacy refers to an individual's belief in his or her ability to successfully engage in a specific behavior within a certain context. Self-efficacy is not usually taught directly, but it may be enhanced through repeated successful experiences in applying the skills/components listed above.

* From Wehmeyer, M. L., & Schwartz, M. (1998). The self-determination focus of transition goals for students with mental retardation. Career Development for Exceptional Individuals, 21, (1), 75-86.
• Based on Parsons, M. B, & Reid, D. H. (1990). Assessing food preferences among persons with profound mental retardation: Providing opportunities to make choices. Journal of Applied Behavior Analysis, 23, (2), 183-195
^ Based on Everson, J. M. (1996). Using person-centered planning concepts to enhance school-to-adult life transition planning. Journal of Vocational Rehabilitation, 6, 7-13.
▲ Based on Abery, B. H. (1994). A conceptual framework for enhancing self-determination. In Hayden, M. F. & Abery, B. H. (Eds.), Challenges for a service system in transition. (pp. 345-380). Baltimore: Brookes Publishing.
'SE based on Powers et al chapter in On the Road to Autonomy.

Table 2
Examples of IEP Goals and Objectives on Self-Determination.

SD Skill	Student Description	IEP Annual Goal	IEP Objectives
Choice- and decision-making	Karen is a 17 year old student with behavior/emotional disability. Karen has difficulty getting along with her peers adults in authority. She has been suspended several times for fighting. She has said that she does not want to go to school after she graduates, but would rather find a job that she likes. She says that the only job that she knows she does not want to do is to work in food service, because she says that is the job her mother has and she doesn't think she would like it. She has a boyfriend who is older who has been trying to talk her into quitting school. Although Karen says she hates school, she says that she wants to be able to take care of herself, because she has seen her mother be independent, and wants to be independent also.	Given exposure to at least five different job types, I will select which type of work I want and why.	1.1 Given 75 hours of community-based work experience in five different employment settings, I will be able to discuss the positives and negatives of each job experience. 1.2 Based on my weighing the positives and negatives of each job type, I will decide which job type I want to pursue for summer employment. 1.3 Based on the job type that I select for summer employment, I will identify five possible job sites for my summer employment. 1.4 Based on the five possible sites that I identified for summer employment, I will complete applications for jobs at three of the five locations. 1.5 Based on the job that I have targeted for summer employment, I will identify my work skills that are strong and my skills that need improvement and develop a plan to improve those skills.
Choice-making (with communication)	Jamar is a 19 year old student with severe mental retardation. Jamar is non-verbal and does not use a symbolic language system. *Note*: At this time, the IEP team did not use "I" statements for Jamar's goals because they are still working to understand his preferences.	Jamar will indicate his choices for leisure activities to others.	1.1 Jamar's will select between two leisure options using an eye gaze. 1.2. Through daily selections, Jamar will indicate at least 3 consistent preferences. 1.3. Jamar will request one of his consistent preferences by hitting a Big

			Mach switch with his fist. 1.4. Jamar will protest if his choice is not honored by hitting a foot buzzer.
Problem-solving skills	Ben is a 13 year old student with behavior and emotional disability. He is in a self-contained classroom because he often becomes aggressive and combative with his teacher or classmates. Also, his mother asked that he be placed in a group home because she said she could not handle his aggressive behavior. When his teacher met with him to talk about planning his IEP for the next year, Ben said that he gets frustrated when he can't figure things out.	Given a challenging situation, I will use a problem-solving process.	1.1. Given simulations of challenging situations, I will be able to define what the problem is and come up with possible solutions. 1.2. Given written examples of challenging situations that were solved by others, I will analyze what actions were taken to solve the problems and evaluate if there might have been a better solution. 1.3. Given challenging situations, I will define the problem and list actions that I might take to solve the problem.
Decision-making	Janie is an eight year old student with mild mental disability. Her mother expressed an interest in Janie learning to take responsibility for some of her actions. She related a story about Janie deciding to paint a picture on the floor with the new carpet.	I will learn to make better decisions.	1.1. From a list of possible solutions, I will choose the best option. 1.3. I will learn from my decisions by discussing what happened and why and how I might have acted differently.
Goal Setting and Attainment	Carl is a 14 year old student served in a classroom for students with learning disabilities. He is not a good student and says that he want to leave school and get a job. His teacher has convinced him that the school can help him improve his job skills and that he should be making the decisions and setting his goals for getting a job that he wants.	I will develop a goal and action plan to get the job that I want when I leave school.	1.1. I will develop a career interest portfolio that addresses my job strengths and interests. 1.2. I will select five community-based work experience sites that I will go to and learn about different jobs. 1.3. I will analyze my skills and interests in relation to the job duties and responsibilities on the five different

			community based work experiences. 1.4. I will set goals for work skills that I will need to succeed in the employment field I have chosen. 1.5. I will develop action steps to achieve my employment goal. 1.6 I will monitor my progress in taking the action steps and make changes as needed
Self-regulation	Katrika is a 5th grade student with moderate MR. She likes school and when she "wants" to she can be a good student. She can read 25 functional reading words, can write her name, her telephone number and part of her address. Her teacher wants to see if she can take over responsibility for maintaining these skills. She suggests a goal to Katrika, and with Katrika's consent, the objectives are written as "I" statements.	Katrika will maintain her functional reading and writing skills on her own.	1.1. I will (with myteacher) construct a weekly recording sheet. 1.2. I will evaluate my functional reading and writing skills using my daily check sheet. 1.3. I will create a weekly schedule for working on my functional reading and writing skills. 1.4. I will determine when I have reached mastery or ask for help to meet my goal.
Self-advocacy	Glenn is a 10th grade student with a learning disability. He goes to an LD resource classroom for one period every day. His learning disability affects his written language expression and he has difficulty reading. He is frustrated because some of his teachers don't use the accommodations that are listed in his IEP. He discussed this problem with his special education teacher and decided to learn more about his LD so that he could better communicate with his teachers.	Given my IEP and personal student file, I will learn about my particular learning disability.	1.1. I will verbally explain how my specific learning disability affects my ability to learn to my teachers. 1.2. I will develop a personal list of learning accommodations that work best for me. 1.3. I will negotiate accommodations with my teachers.
Self-advocacy and self-	Mike is a 14 year old student with moderate mental retardation. His school district's	Given one practice session in a mock IEP	1.1. Given practice in mock IEP meetings in class, I will be able to

awareness	special education program is committed to increasing student participation in the IEP process. His teacher, also committed to this goal, is putting a goal into all of her students' IEPs designed to meet the specific needs of each one.	meeting each week, I will be an active participant in my transition IEP meeting in May.	introduce all of the members of my IEP team at the beginning of the meeting. 1.2 Given a menu of choices that I have been previously introduced to, I will express my preferences as to what goals I would like to work on for the next school year. 1.3 Given practice sessions in class, I will talk about my strengths and weaknesses. 1.4 Given practice in class, I will identify what types of services or supports I need to meet my transition goals and objectives.
Self-efficacy	Juan is a twelve year old student with LD. His mother says that he hates school because he says he can't do anything right.	I will learn to value my strengths and abilities.	1.1. I will keep a list of all of my skill accomplishments for the year. 1.2. I will list my accomplishments during my IEP meeting. 1.3. I will set one to two goals that I will work on for the coming school year.

Running head: SELF-DETERMINATION LESSON PLANS

Writing Lesson Plans for Promoting Self-Determination: From Research to Practice

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Abstract

Although numerous studies exist that illustrate self-determination interventions, the gap between research and practice results in a lack of widespread implementation of these proven techniques. We offer guidance for translating research studies into readily usable lesson plans. We also describe two types of lesson plans and recommend additional studies that lend themselves to classroom instruction.

Writing Lesson Plans for Promoting Self-Determination: From Research to Practice

For decades, special educators have bemoaned the gap between research and practice (Browder, 1997; Carnine, 1997; Kauffman, 1996; Landrum, 1997; Lloyd, Weintraub, & Safer, 1997). Carnine (1997) suggested that the gap exists for two reasons. First, research may not be designed for direct application to practice, and second, teachers do not always see the implications of research for their classrooms.

One area that is currently receiving much attention in the research literature is self-determination. The concept of self-determination has been defined by Field, Martin, Miller, Ward, and Wehmeyer (1998) as:

> a combination of skills, knowledge, and beliefs that enable a person to engage in goal directed, self-regulated, autonomous behavior. An understanding of one's strengths and limitations together with a belief in oneself as capable and effective are essential to self-determination. When acting on the basis of these skills and attitudes, individuals have greater ability to take control of their lives and assume the role of successful adults. (p. 2)

In order for teachers to more easily promote self-determination in their classrooms, the concept of self-determination has been divided into a number of teachable "components". The most commonly identified components found in the literature (e.g., Field & Hoffman, 1994; Mithaug, Campeau, & Wolman, 1992; Ward, 1988; Wehmeyer, 1996) include choice/decision-making, goal setting/attainment, problem solving, self-evaluation/management, self-advocacy, person-centered IEP planning, relationships with others, and self-awareness.

Unfortunately, research on "best-practice" for promoting self-determination is still not being translated into classroom use. Since recent studies indicate that student IEPs do not contain self-determination goals and objectives (Agran, Snow, & Swaner, 1999; Wehmeyer, Agran, & Hughes, 2000; Wehmeyer & Schwartz, 1998), it is likely that students also are not receiving ongoing instruction on these important skills.

One way teachers can begin implementing self-determination lessons is to use one or more published curricula to teach self-determination skills. Test, Karvonen, Wood, Browder, and Algozzine (2000) have provided a list of published self-determination curriculums, as well as a procedure teachers can use to choose a curriculum that best meets the needs of their students. A second alternate to generate ideas for lesson plans is for researchers and teachers to translate the research on promoting self-determination directly into lesson plans. The purpose of this article is to describe a process that teachers can use to "translate" information included in research studies into useable lesson plans using examples drawn from the self-determination literature.

The Self-Determination Synthesis Project

The Self-Determination Synthesis Project (SDSP) was funded by the U.S. Department of Education, Office of Special Education Programs to synthesize and disseminate the knowledge base and best practices related to self-determination for students with disabilities. To this end, the purpose of the project was to improve, expand, and accelerate the adoption of research-based strategies for promoting self-determination to teachers.

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As part of the SDSP effort, we conducted a comprehensive literature review of self-determination intervention research that identified 51 studies in which an intervention had

been used to promote self-determination with people with disabilities (Algozzine, Browder, Karvonen, Test, & Wood, in press). Of these 51 studies, 45 contained enough information for us to translate them into lesson plan starters. See Table 1 for a list of articles and self-determination skills. All lesson plan starters are available at our website at http://www.uncc.edu/sdsp.

Developing a Lesson Plan from a Research Article

In the remainder of this paper we will first, model the process we used to develop our lesson plans, and then provide examples of extending this information to more specific "direct instruction" lesson plans and "systematic instruction" lesson plans. The lesson plans on our website could be called lesson plan "starters" since they are designed to summarize information that can be gathered from research articles in five areas – objective, setting and materials, content taught, teaching procedures, and method of evaluation (see Table 2 for an example of a self-determination lesson plan starter. This information probably may need to be adapted to the specific learning needs of the students to be taught. The teacher may also need to write lesson plans in whatever format is required by a specific school system.

Objective. The objective for a lesson plan is derived from the purpose or hypothesis of a study. In a research article there are two places that this information can be found. First, it is usually in the first or second sentence of the Abstract. However, a better place to look is the last paragraph of the introduction or literature review. In the lesson plan starter in Table 2, based on the research study of Sievert, Cuvo, and Davis (1998), the objective comes from the purpose statement in the last paragraph of the introduction. The objective is to teach students to discriminate whether or not their legal rights have been violated and a general complaints process (self-advocacy).

Setting and materials. The information for this section can be gathered from a variety of places within a research article. Fortunately, many articles have sections labeled Setting and/or Materials. If not, other sections that my include information on instructional setting and materials are the Subjects/Participants section and the Procedures section where the intervention is described. The key information to gather for this section pertains to any special settings and instructional materials (e.g., a specific curriculum) that are needed to implement the lesson. For example, in the lesson plan starter in Table 2, Sievert et al. (1988) used a classroom, an office, and three community settings. This article also provided a section called "Materials" that listed the resources needed for the lessons.

Content taught. Next, you are looking for a description of what information or skill your lesson will be teaching to students. If there is not a specific section labeled Instructional Content, there are a number of other places to look within an article. First, instructional content may be described in the Materials section. For example, if a published curriculum is used, it is quite likely that the content of the curriculum will also be described. Second, check the Tables. They may list the content to be taught or provide a task analysis for the skill. Third, skim the Training or Teaching Procedures section. Sometimes instructional content and the teaching procedures are presented together. Finally, look in the section on Dependent Variables or Measurement Systems. Most studies will collect data on what is being taught. However, because it is a research study, not all the data that are collected will be directly relevant to developing a lesson plan. The bottom-line is to pick out the information or skills that are measured that directly relate to the content or skills that you will teach in the lesson. Remember to refer back to your objective if you start to get lost in the

details of a specific research article. In Sievert et al. (1988), there were two tables that listed all of the skills to be addressed during instruction.

Teaching procedure. For this section you are looking for specific information on how the content or skill was taught to students. Information on teaching procedures will usually be found in the Procedures section of an article. Often this section is divided into multiple parts so be sure to look for headings such as Training Procedures, Instructional Procedures, and/or Training Sessions. Again, check the Tables to see if examples of the teaching procedures are provided. In Sievert et al. (1988), this information was found under the heading called "Training."

Method of evaluation. This section is probably the most difficult to write since most studies collect more data than you would typically collect. Information on how to evaluate student learning or skill acquisition is typically found in the section on Dependent Variables. As with instructional content, you will need to sift through the various dependent variable or pre-post measures to determine what is best for their situation. Our suggestion is to look for specific information on how the student's responses in the study were counted as correct and incorrect on the content taught or the skill learned. If students are learning to perform a new skill using role-playing, we recommend that student skill evaluation be extended to include use of the skill in "real or live" environments (e.g., grocery stores, restaurants, general education classrooms). For example, Sievert et al. (1988) used role-play assessments in both the classroom and community settings to evaluate the students' acquisition of the self-advocacy skills.

Adapting the Lesson Plan Starters for Specific Lesson Plans

In Table 2, we have provided a "lesson plan starter" based on Sievert et al. (1988). As mentioned earlier, 45 of these lesson plan starters can be found on our web site (www.uncc.edu/sdsp). To translate these starters into specific lesson plans, you may want to use either a direct or systematic instruction format (see Table 3 for a sample direct instruction framework and Table 4 for a sample systematic instruction plan framework).

Direct instruction lesson plans. Direct instruction (Carnine, Filbert, & Kameenui, 1997) is most applicable when the teacher's goal is for student to learn both conceptual knowledge and to apply skills in a practice session. The content of each day's lesson may change as the teacher progresses through an instructional unit. For example, most students would not be able to master all of the material shown in Table 2 in one lesson. Rather, this content might be adapted as an instructional unit on self-advocacy. The first day's lesson plan could be on personal rights.

To implement a direct instruction lesson on personal rights, the teacher might follow these steps. First, the teacher uses an "attention getter". For example, the teacher might share an article or video clip about people with disabilities getting married. Next, the teacher states the objective of the lesson, "Today we are going to learn about your personal rights." If new vocabulary concepts will be used, these are briefly defined. If there are links to prior lessons, the teacher conducts a quick review. For example, before beginning the next lesson on Community Rights, the teacher may have the students state their personal rights. After any relevant review, the teacher introduces each right in a direct instruction format by using frequent responding with prompts and feedback as needed. For example, "In an election you have the right to---Everyone?" The class responds, "Vote." The teacher replies, "Yes, you

have the right to vote." The teacher may follow this group response with a check for individual understanding, "Alice, what do you have the right to do in an election?" Alice replies, "I have the right to vote." The teacher says, "That's correct, Alice. Voting is your right." Next, class members apply the material in teacher-guided practice. For this lesson, the students can role-play encountering a situation in which their rights are challenged (e.g., going to register to vote). Finally, the teacher evaluates individual understanding. This may include both a paper and pencil assessment (e.g., listing their personal rights) and applications. For example, the teacher may assess individual understanding by changing the role play (e.g, going for a blood test to get married; purchasing birth control) and having individuals take turns demonstrating what they would do if their rights were challenged. Obviously, the amount of repetition and practice would vary depending on students' individual needs. Once the students demonstrate knowledge and application of personal rights, the teacher would go on to the second direct instruction lesson in the self-advocacy unit- community rights.

Many of the studies that include conceptual understanding demonstrate applications with students with mild disabilities. This method of teaching need not be limited to students with more advanced language ability. By using a direct instruction lesson plan adapted for students' rate of learning and response modes, teachers may assist students with moderate and severe disabilities to benefit from this form of instruction as well.

Systematic instruction lesson plans. Some studies do not focus on conceptual knowledge, but instead target the performance of specific skills. For example, in Bambara and Ager (1992) participants learned to schedule leisure activities. In Browder, Cooper, and Lim (1998) the adults used objects to communicate their choice of settings for leisure

activities. In Hughes and Rusch (1989) supported employees followed a problem solving sequence. In each of these interventions, there was minimal conceptual training. That is, the teacher did not have a lesson to "talk about" self-scheduling, making a choice, or solving problems. Instead, the participants learned to perform these skills "in vivo." When the focus is on skill performance, a "systematic instruction" lesson plan may be the most useful (Browder, 2001.) The teacher begins by defining the specific, observable responses the student will make. For example, Hughes and Rusch (1989) used a task analysis of the problem solving sequence. Browder, Cooper, and Lim (1998) defined the specific communication responses (e.g., using a golf ball to ask to play golf). Next, the teacher defines the method of prompting and feedback to be used. In research articles that focus on skill performance, these methods are often described in detail. For example, Bambara and Ager (1992) offer specific details on how they modeled each step of the self-scheduling sequence and provided praise or correction after the participant made each response. The research study may also provide information on how to teach or evaluate the student's generalization of the skill to novel materials or setting. When skill performance is the target and a systematic instruction lesson plan is created, this exact same lesson is used daily until the student masters the skill. In research studies that used this approach, participants sometimes have needed several months to learn to perform the target skill. Over these months of repeating the exact same systematic instruction, the teacher gradually fades the prompts and feedback until the participant can perform the skill without help.

The research by Cooper & Browder (1998) on teaching choice making provides one of several studies in Table 1 that can be adapted to a systematic instruction lesson plan. In this lesson, the teacher would offer two options and ask, "Which one?" If the student makes

no indication of choice after a pause of several seconds, the teacher would say, "Let's try this one" and guide the student's hand to point to a choice. The teacher then gives the student access to that choice. If the student points without hand guidance, the teacher can praise this response, "Thanks for letting me know your choice!" to encourage independent responding.

Systematic prompting and feedback to teach participants to perform specific skills has often been used in research with students with moderate and severe disabilities. In contrast, students with mild disabilities may also need this systematic method to learn a complex new skill. For example, the participants in Bambara and Ager (1992) learned to schedule their leisure time several days in advance and make the necessary arrangements for these activities through a systematic method of prompting and feedback to use a personal planner.

Summary

Translating research on self-determination into practice requires both identifying the information relevant to teaching from the total content of an article and then further clarifying how the intervention will be adapted for specific students. We have offered two resources to help teachers in this translation. The first is a web site resource in which we have already gleaned the critical teaching information from the article in what we call "lesson plan starters." One of these starters is shown in Table 2. Second, this article offers two strategies for adapting these starters into specific lesson plans. The first, which includes conceptual understanding, uses a direct instruction approach. The second, focusing on specific skill performance, uses systematic prompting and feedback as students perform the target responses each day. However teachers adapt this research into lesson plans, a focus on self determination can help students "take charge" of their learning and their lives.

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Sievert, A. L., Cuvo, A. J., & Davis, P. K. (1998). Training self-advocacy skills to adults with mild handicaps. *Journal of Applied Behavior Analysis, 21*, 299-309.

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Wehmeyer, M.L., Agran, M., & Hughes, C. (2000). A national survey of teachers' promotion of self-determination and student-directed learning. *Journal of Special Education, 34,* 58-68.

Wehmeyer, M. L. & Schwartz, M. (1998). The self-determination focus of transition goals for students with mental retardation. *Career Development for Exceptional Individuals, 21,* 75-86.

Table 1

Self-determination skills included in intervention research/lesson plan starters

Reference	Self-Determination Skill(s)
Abery, B., Rudrud, L., Arndt, K., Schauben, L., & Eggebeen, A. (1995). Evaluating a multicomponent program for enhancing the self-determination of youth with disabilities. Intervention in School and Clinic, 30, 170-179.	Ten component skills of self-determination
Adelman, H. S., MacDonald, V. M., Nelson, P., Smith, D. C., & Taylor, L. (1990). Motivational readiness and the participation of children with learning and behavior problems in psychoeducational decision making. Journal of Learning Disabilities, 23, 171-176.	Participation in decision-making
Artesani, A. J., & Mallar, L. (1998). Positive behavior supports in general education settings: Combining person-centered planning and functional analysis. Intervention in School and Clinic, 34, 33-38.	Person-centered planning
Aune, E. (1991). A transition model for post-secondary bound students with learning disabilities. Learning Disabilities and Research, 6, 177-187.	Self-awareness, self-advocacy, decision-making, interpersonal relations
Balcazar, F. E., Fawcett, S. B., & Seekins, T. (1991). Teaching people with disabilities to recruit help to attain personal goals. Rehabilitation Psychology, 36, 31-41.	Help-recruiting (self-advocacy) skills
Bambara, L. M., & Ager, C. (1992). Using self-scheduling to promote self-directed leisure activity in home and community settings. Journal of the Association for Persons with Severe Handicaps, 17, 67-76.	Developing and implementing self-scheduling
Belfiore, P. J., Browder, D. M., & Mace, C. (1994). Assessing choice making and preference in adults with profound mental retardation across community and center-based settings. Journal of Behavioral Education, 4, 217-225.	Choice-making and preference assessment
Bowman, O. J., & Marzouk, D. K. (1992). Using the American with Disabilities Act of 1990 to empower university students with disabilities. The American Journal of Occupational Therapy, 46, 450-456.	Obtaining accommodations guaranteed under ADA

Bregman, S. (1984). Assertiveness training for mentally retarded adults. Mental retardation, 22, 12-16.	Assertiveness
Browder, D. M., Cooper, K. J., & Lim, L. (1998). Teaching adults with severe disabilities to express their choice of settings for leisure activities. Education and Training in Mental Retardation and Developmental Disabilities, 33, 228-238.	Choice-making using communicative labels
Browning, P., & Nave, G. (1993). Teaching social problem solving to learners with mild disabilities. Education and training in Mentla Retardation and Developmental Disabilities, 28, 309-317.	Social problem-solving skills
Castles, E. E., & Glass, C. R. (1986). Training in social and interpersonal problem-solving skills for mildly and moderately mentally retarded adults. American Journal of Mental Deficiency, 91, 35-42.	Interpersonal problem-solving and social skills
Cooper, K. J., & Browder, D. M. (1998). Enhancing choice and participation for adults with severe disabilities in community-based instruction. Journal of the Association for Persons with Severe Handicaps, 23, 252-260.	Choice, participation
Cross, T., Cooke, N. L., Wood, W. M., & Test, D. W. (1999). Comparison of the effects of MAPS and ChoiceMaker on student self-determination skills. Education and Traning in Mental Reatardation and Developmental Disabilities 34, 499-510.	Self-awareness, goal setting, participation in transition IEP meetings
Durlak, C. M., Rose, E., & Bursuck, W. D. (1994). Preparing high school students with learning disabilities for the transition to postsecondary education: Teaching the skills of self-determination. Journal of Learning Disabilities, 27, 51-59.	Describe disability, select and arrange accommodations
Everson, J. M., & Zhang, D. (2000). Person-centered planning: Characteristics, inhibitors, and supports. Education and Training in Mental Retardation and Developmental Disabilities, 35, 36-43.	Person-centered planning
Ezell, D., Klein, C. E., & Ezell-Powell, S. (1999). Empowering students with mental retardation through portfolio assessment: A tool for fostering self-	Student empowerment

determination skills. Education and Training in Mental Retardation and Developmental Disabilities, 34, 453-463.	
Foxx, R. M., Faw, G. D., Taylor, S., Davis, P. K., & Fulia, R. (1993). 'Would I be able to…?' Teaching clients to assess the availability of their community living life style preferences. American Journal on Mental Retardation, 98, 235-248.	Preference and choice-making
Fullerton, A., & Coyne, P. (1999). Developing skills and concepts for self-determination in young adults with autism. Focus on Autism and Other Developmental Disabilities, 14, 42-52.	Self-knowledge about autism, communication, and goal-setting
Hagner, D., Helm, D. T., & Butterworth, J. (1996). 'This is your meeting': A qualitative study of person-centered planning. Mental Retardation, 34, 159-171.	Person-centered planning
Hoffman, A., & Field, S. (1995). Promoting self-determination through effective curriculum development. Intervention in School and Clinic, 30, 134-141.	Self-awareness, rights and responsibilities, goal setting, self-advocacy, communication, recruiting help
Hughes, C., Hugo, K., & Blatt, J. (1996). Self-instructional intervention for teaching generalized problem-solving within a functional task sequence. American Journal on Mental Retardation, 100, 565-579.	Problem-solving
Hughes, C., & Rusch, F. R. (1989). Teaching supported employees with severe mental retardation to solve problems. Journal of Applied Behavior Analysis, 22, 365-372.	Solving work-related problems
Jerman,S.L., Martin, J. E., Huber Marshall, L., & Sale, R. P. (2000). Promoting self-determination: Teaching goal attainment with the take action process. Career Development for Exceptional Individuals, 23, p. 27-38.	Attaining daily IEP goals
Malette, P., Mirenda, P., Kandborg, T., Jones, P., Bunz, T., & Rogow, S. (1992). Application of a lifestyle development process for people with severe intellectual disabilities: A case study report. Journal of the Association for Persons with Severe Handicaps, 17, 179-191.	Lifestyle development process
Miner, C. A., & Bates, P. E. (1997). The effects of	Student involvement in

person centered planning activities on the IEP/transition planning process. Education and Training in Mental Retardation and Developmental Disabilities, 32, 105-112.	transition planning and IEP meetings
Mithaug, D. E., & Hanawalt, D. A., (1978). The validation of procedures to assess prevocational task preferences in retarded adults. Journal of Applied Behavior Analysis, 11, 153-162.	Assessing prevocational preferences
Nezu, C. M., Nezu, A. M., & Arean, P. (1991). Assertiveness and problem solving training for mildly mentally retarded persons with dual diagnoses. Research in Developmental Disabilities, 12, 371-386.	Social problem-solving, assertiveness
Nietupski, J., Hamre-Nietupski, S., Green, K., Varnum-Teeter, K., Twedt, B., LePara, D., Scebold, K., & Hanrahan, M. (1986). Self-initiated and sustained leisure activity participation by students with moderate/severe handicaps. Education and Training of the Mentally Retarded, 21, 259-264.	Choice making
Nozaki, K., & Mochizuki, A. (1995). Assessing choice making of a person with profound disabilities: A preliminary analysis. Journal of the Association for Persons with Severe Handicaps, 20, 196-201.	Assessing leisure activity preferences
Parsons, M. B., & Reid, D. H. (1990). Assessing food preferences among persons with profound mental retardation: Providing opportunities to make choices. Journal of Applied Behavior Analysis, 23, 183-195.	Assessing food and drink preferences
Parsons, M. B., Reid, D. H., & Green, C. W. (1998). Identifying work preferences prior to supported work for an individual with severe disabilities including deaf-blindness. Journal of the Association for Persons with Severe Handicaps, 23, 329-333.	Assessing vocational preferences
Phillips, P. (1990). A self-advocacy plan for high school students with learning disabilities: A comparative case analysis of students', teachers' and parents' of program effects. Journal of Learning Disabilities, 23, 466-471.	Planning and decision making
Powers, L. E., Turner, A., Elison, R., Matuszewski, J., Wilson, R., Phillips, A., & Rein (in press). A controlled field-test of TAKE CHARGE: A multi-component intervention to promote adolescent self-determination. Career Development for Exceptional Individuals.	Student involvement in transition planning

Powers, L.E., Turner, A, Westwood, D., Matuszewski, S., Wilson, R. & Phillips, A. (2001). TAKE CHARGE for the Future: A controlled field-test of a model to promote student involvement in transition planning. Career Development for Exceptional Individuals, 24, 89-104.	Student involvement in transition planning
Prater, M. A., Bruhl, S., & Serna, L. A. (1998). Aquiring social skills through cooperative learning and teach-directed instruction. Remedial and Special Education, 19, 160-172.	Listening, problem-solving, negotiating
Rietveld, C. M. (1983). The training of choice behaviors in Down's syndrome and non-retarded preschool children. Australia and New Zealand Journal of Developmental Disabilities, 9, 75-83.	Choice making
Schleien, S. J., & Larson, A. (1986). Adult leisure education for the independent use of a community recreation center. Journal of the Association for Persons with Severe Handicaps, 11, 39-44.	Choice making
Sievert, A. L., Cuvo, A. J., & Davis, P. K. (1988). Training self-advocacy skills to adults with mild handicaps. Journal of Applied Behavior Analysis, 21, 299-309.	Determining whether or not rights have been violated
Sigafoos, J., Roberts, D., Couzens, D., & Kerr, M. (1993). Providing opportunities for choice making and turn taking to adults with multiple disabilities. Journal of Developmental and Physical Disabilities, 5, 297-310.	Choice making, turn taking
Stowitschek, J. J., Laitinen, R., & Prather, T. (1999). Embedding early self-determination opportunities in curriculum for youth with developmental disabilities using natural teaching incidents. Journal for Vocational Special Needs Education, 21, 15-26.	Making appropriate choices, respecting the preferences of others
Tymchuk, A. J., Andron, L., & Rahbar, B. (1988). Effective decision making / problem solving training with mothers who have mental retardation. American Journal on Mental Retardation, 92, 510-516.	Decision making, problem solving
Van Reusen, A. K., & Bos, C. S. (1994). Facilitating student participation in individualized education programs through motivation strategy instruction.	Participation in IEP

Exceptional Children, 60, 466-475.	
Van Reusen, A. K., Deshler, D. D., & Schumaker, J. B. (1989). Effects of a student participation strategy in facilitating the involvement of adolescents with learning disabilities in the Individualized Education Program planning process. Learning Disabilities, 1, 23-34.	Participation in IEP
Wehmeyer, M., & Lawrence, M. (1995). Whose future is it anyway? Promoting student involvement in transition planning. Career Development for Exceptional Individuals, 18, 69-83.	Participation in transition planning process
Zirpoli, T. J., Wieck, C., Hancox, D., & Skarnulis, E. R. (1994). Partners in policymaking: The first five years. Mental Retardation, 32, 422-425.	Self-advocacy

Table 2

Sample Self-Determination Research to Practice Lesson Plan Starter

Lesson Plan

1. Objectives: To teach students with mild disabilities: a) to discriminate whether or not their legal rights have been violated in certain interpersonal situations, and b) a general complaints process to redress rights violation.

2. Setting and materials: Classroom and community setting could be used. Possible community settings include a living unit in an apartment building for persons with disabilities, the recreation room at the apartment building, and a discount department store. An overhead projector, screen, transparencies, videocassette recorder, telephone, and a telephone directory of agencies frequently used by persons with disabilities.

3. Content taught:

A. Specific Rights

I. Personal Rights: Rights to which one is entitled as a member of society.

- Right to marry
- Right to show physical affection to a person of the opposite sex
- Right to use birth control
- Right to have and raise children
- Right to vote
- Right to get help when voting
- Right to get driver's license

II. Community Rights: Rights to which one is entitled when living in the community.

- Right to get a job
- Right to a minimum wage
- Right to proper notice if you are being fired
- Right to safe working conditions
- Right to equal consideration for promotion and other benefits
- Right to housing
- Right to privacy
- Right to repairs if renting
- Right to have visitors of your choice when renting
- Right to use public facilities

III. Human Service Rights: Rights to which one is entitled as a consumer of human services

- Right to services
- Rights to advance notice of any change in assistance
- Right not to have your records shown to anyone
- Right to look at your records
- Right to go to staff meetings
- Right to refuse to participate in or withdraw from research anytime
- Right to quit services anytime

IV. Consumer Rights: Rights to which one is entitled as a buyer of products.

- Right to be told the truth about products
- Right to choose what to buy
- Right to buy safe products
- Right to have action taken on your complaint

B. Redressing Rights

1. An assertion of one's rights (e.g., "You have no right to …")
2. An explanation of why one's rights were violated including a statement of conditions that were met (e.g., "I paid the fees, passed the tests, and filled out all the necessary forms")
3. When complaining to the supervisor or advocacy agency personnel, a description of what already was done to resolve the problem (e.g., " I talked to the sales desk and his supervisor, and neither of them would help me")

4. Teaching procedure:

A. Discrimination Training Procedures for four General Legal Rights Categories

1. Define first general rights category (i.e., Personal rights).
2. Present first specific right (i.e., right to marry).
3. Present conditions for first specific right (i.e., marriage license, blood test, money to pay the fee, fill out the necessary forms).
4. Present scenarios illustrating violations and non-violations of first specific right.
5. Present second specific right, with steps 2-4 repeated until all specific rights in the general rights category are presented.
6. Within General Rights Category Interspersal – scenarios from all specific rights in the first general rights category are presented in arbitrary order.

Subsequently the rest of the rights can be presented in the same order and the final step would involve presenting scenarios from specific rights in the first, second, third, and fourth general rights categories.

B. Redressing Legal Rights Violations

1. Teacher presents written instructions regarding how to redress rights violations on overhead transparencies, and reads them aloud.
    a) The first textual cue states the sequence of persons to whom participants should speak when responding to a rights violation.
    b) The second transparency states the verbal components that should be included in the description of the problem to each of the above personnel.
    c) The third transparency presents a checklist of behaviors to redress a rights violation that chains the responses from the first two transparencies.

d) After the teacher removes the third transparency, she asks participants questions regarding how to redress a rights violation.

2. Next a videotape is presented portraying staff role-playing how to redress rights violations for one scenario for each of the four general rights category. Students are given a redressing rights violations checklist (based on three-step procedure described above) for each of the videotaped scenario and are told to mark each response on the checklist as it occurred on the tape.

3. Following the videotaped role-plays students individually engage in behavioral rehearsal. The teacher chooses participants with whom to role-play and presents scenarios and role-play as during testing. Those who do not actively participate observe the role-play while completing the redressing rights violation checklist. Students are given specific verbal feedback on errors made during role-play to each of the three parties. Following feedback, participants role-play the steps again. If students still do not perform correctly, the teacher models the correct responses, and students imitate.

5. Method of evaluation:

Students are given scenarios and are required to discriminate whether or not their rights had been violated and, if they had, to emit the behavioral chain to redress a rights violation.

Lesson plan based on: Sievert, A. L., Cuvo, A. J., & Davis, P. K. (1988). Training self-advocacy skills to adults with mild handicaps. *Journal of Applied Behavior Analysis, 21*, 299-309.

Table 3

Direct Instruction Format: Use for small group or whole class academic lessons on conceptual understanding

Students/Class:_____ Date:_____
Subject:_____ Skill/Topic:_____

Specific Objective
Antecedent:_____
Behavior:_____
Criteria:_____
Setting/Materials:_____

Teaching Sequence

I. *Anticipatory Set (Focus and Review)*
1. Use a focus statement/question/ attention getter:
2. State relevance of lesson/ learning outcome:
3. Review/transfer past learning to current lesson:
4. Review new vocabulary terms *(list terms here)*:

II. Teaching Input
Sequence/Steps Questions/Examples/Nonexamples

III. *Active Student Responding (Guided Practice)*
1. Teacher Cue to Respond_____
2. Signal for Student Response_____
3. Duration of Pause for Response_____
4. Signal Correction ("Everyone answer")_____
5. Response Correction (Check One)
_____ Model Test _____ Model-Lead-Test
Example:_____
6. Example of specific praise statement_____

Goal: positive tone, repeat with group and individuals to get 10 student responses per minute; at least half praise is specific

IV. Independent Practice (e.g., written work, practice with peer)

V. Summary/Closure

VI. Evaluation of Student Progress

Table 4

Systematic Instruction Plan format: Use with small group or 1:1 lessons in life skills, functional academics, or academic drill

Name:_____ Date:_____
Routine:_____ Skill:_____

Specific Objective
Antecedent:_____
Behavior_____
Criteria_____

Setting and Schedule for Instruction:_____

Teaching Sequence:
1. *Cue*

Natural Cue (discriminative stimulus) to Begin Response:_____
_____
Instructor Cue if No Response to Natural Cue:_____
_____

2. *Prompting*

Type of Prompt System (Check which applies)

_____ Least Prompts _____ Time Delay _____ Most to Least
_____ Other (Describe):_____

Specific Prompts to Be Used (List in sequence):

1._____ 2._____ 3._____ 4._____

Latency Before Prompt is Given:_____

Fading Schedule for Time Delay_____

3. *Feedback*

Correct Responses
Praise for Correct Responding- How Often?_____
Other Reinforcers_____
Fading Reinforcement_____
Incorrect Responses
Check which applies:
_____ Give next level prompt
_____ Tell incorrect ("No") and prompt correct (how)_____
_____ Other (Describe)_____

Best Practices in Promoting Self-Determination for Students with Disabilities

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Self-Determination Synthesis Project

Our purpose is to gather, synthesize, and disseminate "best practices" for promoting self-determination for students with disabilities.

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Definition of Self-Determination

A combination of skills, knowledge, and beliefs that enable a person to engage in goal-directed, self-regulated, autonomous behavior. An understanding of one's strengths and limitations together with a belief in oneself as capable and effective are essential to self-determination. When acting on the basis of these skills and attitudes, individuals have greater ability to take control of their lives and assume the role of successful adults in our society.

Field, S., Martin, J., Miller, R., Ward, M., & Wehmeyer, M (1998). A practical guide for teaching self-determination. Reston, VA: Council for Exceptional Children.

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Components (Dependent Variables)

- choice making
- decision making
- goal setting & attainment
- problem solving
- self-evaluation
- self-advocacy (knowledge, individual or system)
- self-awareness
- self-efficacy

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Methods (Independent Variables)

- teaching skills or enhancing knowledge in one or more of the SD component areas
- person-centered planning/IEPs
- ecological interventions
- preference assessment
- financial

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Project Components

- Conducting a literature review of SD interventions
- Visiting exemplary sites that successfully promote SD for students
- Comparing results of literature review and case studies to synthesize best practices
- Disseminating results to wide range of stakeholder groups

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Literature Review of SD Interventions: Inclusion Criteria

- Published in a peer reviewed journal bt 1972 and 1999
- Includes individuals with one of the IDEA classifications or non-specified DD
- Ages: 3 years to adult
- A data-based intervention (qualitative or quantitative)
- An intervention study in which participants (students, staff, or other adults) learn new skills or acquire new opportunities
- The intervention focuses on one of the SD components as a dependent variable.

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Self-Determination Literature

All SD articles: 409

SD research studies: 112

SD intervention studies: 51

Meta-analysis studies: 22

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Results

Most frequently included SD components were:

Choice making (n=19, 37%)
Individual self-advocacy (n=18, 35%)
Problem solving (n=14, 27%)
Goal setting/attainment (n=13, 25%)
Self-awareness (n=12, 24%)
Decision making (n=9, 18%)

Single subject:: choice-making
Group: self-advocacy, goal setting

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Results

Types of interventions included:

Researcher-developed strategies (n=35, 69%)
Published curricula (n=12, 24%)
Person-centered planning strategies (n=8, 16%)
Preference assessment (n=7, 14%)

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Results

Researcher-developed strategies included:

Teaching people to make choices
- Preference assessment
- Present options
- Prompting strategy
- Reinforcement system

Teaching people new content/skills
- Teach content
- Student practice with feedback
- Student performing skill in actual environment

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Curriculum Samples

Self-Directed IEP

Self-Advocacy Strategy

Whose Future is it Anyway?

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IEP Goals: teach/apply SD skills

Teach skills:

I will learn the skills I need to advocate for myself by taking the Advocacy class.

Apply skills:

I will complete three job shadowing experiences and report my preferences to my career teacher.

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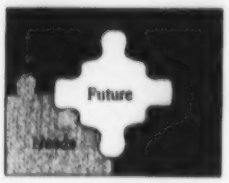
Person-centered planning

- MAPS
- Personal Futures Planning
- Group Action Planning
- Essential Lifestyle Planning
- Circles of Support
- Hybrids and other models



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Effective person-centered planning

- Set of values and strategies
- Person focused, not service focused
- Emphasis on capacities and possibilities
- Creative and flexible (planning and funding)
- Use existing network to the extent possible
- Collaborative effort
- Plan is not a final product

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Effective person-centered planning

Facilitator role

- pro-empowerment philosophy
- aware of own values and biases
- creative thinker

Administrative support

- don't add facilitator responsibilities to regular demands
- allow work as teams

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Preference Assessment

- Used with individuals who have difficulty communicating their preferences or choices
- Systematic data collection and analysis
- Preference assessment is part of promoting SD only if the results are used to honor the individual's choices to establish lifestyle preferences.
- Can be used for vocational, recreational, or other choices

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Helping students express choice

- Picture schedules
- Lunch board
- Picture assessments on the job
- Assistive technology
- Positive behavioral support and functional assessment

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Ecological Interventions

- Adoption of SD policies and philosophy
- Staff development/inservice on SD
- SD curriculum and practices used by the general education teachers
- Student choice included in classroom activities (student-directed learning)
- Staff promoting risk-taking, learning from consequences

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Case Studies of Exemplar Sites

Purpose: To examine strategies and environmental factors that promote self-determination in schools

Visit and collect data from six sites via focus groups, interviews, observations, and document analysis

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Site A: Program Description

- Purpose of group is to educate themselves and others about their disabilities, and to advocate for themselves in educational and other settings
- LEAD (Learning and Educating About Disabilities)
- Group of 17 students with LD who speak to students, parents, educators, and community members about disabilities
- Meet daily on different topics (e.g., support, education, mentoring)

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Site B: Program Description

- Train students to participate in IEP preparation and meeting; write own IEP goals
- One-semester course on self-advocacy
- One-semester course on transition issues including "Get a Life" game
- Coordination with local agency to provide job shadowing and community-based experiences

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Site C: Program Description

- Systematic approach to promoting SD used at the middle and high school levels and in a community-based program for 18-21 year-olds.
- Students write own IEP goals and lead IEP meetings
- Self-advocacy model based on learning strategies approach - student responsibility for own learning is emphasized
- Teacher and administrator philosophy: high expectations for all students
- Special programs (C-club, summer camp, peer mentors)

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Site D: Program Description

- Self-determination philosophy incorporated into existing curriculum
- Implemented in resource, self-contained, and general education settings
- Students expected to assume responsibility for academics and participate in IEP process
- Program expanded from exceptional children to include students at risk of dropping out of high school

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Site E: Program Description

- Empowerment program that emphasizes goal setting and help recruiting using a case management model
- Classroom-based curriculum, followed by application of skills in vocational and educational settings
- Students recruit help they need to attain goals
- Case managers help remove agency barriers

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Site F: Program Description

- Program that uses person-centered planning to identify and honor preferences of transition-aged students with moderate to severe disabilities
- Begin with MAPping process; Circle of Support is identified and circle members provide follow-up support on the implementation of the student's plan
- Interagency collaboration to provide students with a range of job assessment experiences
- Self-advocacy training provided through local advocacy organization

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Preliminary Results: Case Studies

- Critical success factors include teacher philosophy and administrative support
- At present, efforts begin at the high school level and filter down to elementary and middle schools via teacher training and student mentoring
- Several programs developed from connections to universities or research projects on self-determination
- Important for students to take risks to achieve new goals and experience success

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Barriers

- Students' low self-efficacy
- Parents not wanting their sons and daughters to take risks, experience failure
- Lack of administrative support - lack of recognition of successful innovation and dissemination
- Teachers' low expectations
- Helping too much

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Final Helpful Hints

- Have SD definition in your mind - what is the desired outcome?
- Recognize that SD cannot be achieved in a vacuum
- Create opportunities for SD within everyday activities
- Collaborate with families
- Recognize students' individual differences

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Final Helpful Hints

- Be a self-determined teacher/parent/service provider
- Believe in your students' unlimited potential (and show it)
- Recognize your own tendencies to do for students, rather than empower them to do for themselves
- Encourage risk-taking; be available as a safety net

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Where might we go next?

- Empirically validate existing published curricula
- Extend existing strategies across disability groups
- Develop strategies to teach other SD components

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Where might we go next?

- Begin to conduct component analyses
- Investigate issues identified in qualitative studies
- Investigate longitudinal effects of promoting self-determination on the student

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Exemplar Sites

Blue Valley School District
Overland Park, Kansas
Cheyenne Mountain High School
Colorado Springs, Colorado
Conant High School
Hoffman Estates, Illinois

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Exemplar Sites

Fountain-Fort Carson High School
Colorado Springs, Colorado
Monroe County BOCES 1 and 2
Rochester, New York
University of Illinois at Chicago
Chicago, Illinois

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Self-Determination Synthesis Project Web Site

http://www.uncc.edu/sdsp

web links
resource list
exemplar site descriptions
research-to-practice lesson plans

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Self-Determination Synthesis Project
Dissemination Summary

MANUSCRIPTS

Algozzine, B., Browder, D., Karvonen, M., Test, D. W., & Wood, W. M. (in press). The effects of self-determination interventions on students with disabilities. Review of Educational Research.

Browder, D., Karvonen, M., Wood, W. M., Test, D. W., & Algozzine, B. (2001). Self-determination synthesis project presentations. 1999 TASH Conference Yearbook. Baltimore, MD: TASH.

Browder, D., Wood, W. M., Test, D. T., Algozzine, B. & Karvonen, M. (2001). A map for teachers to follow in reviewing resources on self-determination. Remedial and Special Education, 22, 233-244.

Pocock, A., Lambros, S., Karvonen, M., Wood, W. M., Test, D. W., Browder, D. M., Algozzine, B., & Martin, J. M. (in press). Successful strategies for promoting self-advocacy among students with learning disabilities: The LEAD Group. Intervention in School and Clinic.

Test, D. W., Browder, D. M., Karvonen, M., Wood, W., & Algozzine, B. (2001). Writing lesson plans for promoting self-determination: From research to practice. Manuscript submitted for publication.

Test, D. W., Karvonen, M., Wood, W. M., Browder, D., & Algozzine, B. (2000). Choosing a self-determination curriculum for your students. Teaching Exceptional Children, 33, 48-54.

Wood, W. M., Karvonen, M., Test, D. W., Browder, D. M., & Algozzine, B. (in press). Self-determination instruction in special education: Getting self-determination into the IEP. Teaching Exceptional Children

Wood, W. M., Test, D. W., Karvonen, M., Browder, D. M., & Algozzine, B. (2001). Putting self-determination into practice. Manuscript in preparation.

PRESENTATIONS

Browder, D. M. (2001, May). Final report of the self-determination synthesis project: Best practices in promoting self-determination for students with disabilities. Paper presented at the 125th Annual Meeting of the American Association on Mental Retardation, Denver, Colorado.

Browder, D. M. (2000, December). Self-determination Synthesis Project: Final Report. Paper presented at the annual TASH Conference, Miami, Florida.

Browder, D., Karvonen, M., Wood, W. M., Test, D. W., & Algozzine, B. (1999, December). Preliminary findings from the self-determination synthesis project. Paper presented at the annual TASH Conference, Chicago, Illinois.

Browder, D., Wood, W. M., Test, D. W., Karvonen, M., & Algozzine, B. (1999, December). Self-determination curriculum sampler. Paper presented at the annual TASH Conference, Chicago, Illinois.

Karvonen, M. (2000, June). Promoting self-determination for students with disabilities. Breakout session presented at the First Annual California Conference on Self-Determination, Buellton, California.

Test, D. W. (1999, May). A synthesis of research on self-determination: Where have we been, and where might we go? Paper presented at the annual conference of the Association for Behavior Analysis, Chicago, IL.

Test, D. W. (2001, October). Best practices for promoting self-determination. Paper presented at the 11th International Conference of the Division on Career Development and Transition, Denver, Colorado.

Test, D. W., & Browder, D. M. (2000, April). Self-determination synthesis project: Research findings and curriculum samples. Poster session presented at the Annual Convention and Expo of the Council for Exceptional Children, Vancouver, British Columbia.

Test, D. W., & Karvonen, M. (1999, July). Self-determination synthesis project. Poster session presented at the annual Office of Special Education Programs Research Project Directors Meeting, Washington, DC.

Test, D. W., Wood, W. M., & Browder, D. M. (2002, April). Best practices for promoting self-determination for students with disabilities. Paper accepted for presentation at the 2002 Convention and Expo of the Council for Exceptional Children

Test, D. W., Wood, W. M., Browder, D., Algozzine, B., & Karvonen, M. (1999, October). Self-determination synthesis project findings: Year one. Paper presented at the tenth international conference of the Division on Career Development and Transition, Charleston, South Carolina.

Wood, W. M., Browder, D., Test, D. W., Karvonen, M., & Algozzine, B. (1999, October). Self-determination curriculum sampler. Paper presented at the tenth international conference of the Division on Career Development and Transition, Charleston, South Carolina.

Wood, W. M., Test, D. W., & Karvonen, M. (2000, October). Best practices in promoting self-determination for students with disabilities. Paper presented at the 2000 International Conference of the Council for Exceptional Children Division on Mental Retardation and Developmental Disabilities, Baltimore, Maryland.

Wood, W. M., Test, D. W., Browder, D., & Karvonen, M. (1999, July). A report on the self-determination synthesis project. Paper presented at the annual conference of the Association for Persons in Supported Employment, Chicago, Illinois.

WORKSHOPS, TRAININGS, AND OTHER LECTURES

Karvonen, M. (1999, September). Self-determination synthesis project. Guest presentation to Transition Course at the University of North Carolina at Charlotte.

Wood, W. M. (2000, April). Inservice for Charlotte-Mecklenburg Schools teachers.

Wood, W. M. & Browder, D. M. (1999, August). Inservice training on self-determination for North Shelby School.

WEB SITE

Wood, W. M., Test, D. W., Browder, D. M., Algozzine, B., & Karvonen, M. (1999). Self-determination synthesis project web site. Available: http://www.uncc.edu/sdsp.

SD Synthesis Project Timeline

Obj #	Objective	Staff	Year 1				Year 2				Status
			1st Oct-Dec	2nd Jan-Mar	3rd Apr-Jun	4th Jul-Sep	1st Oct-Dec	2nd Jan-Mar	3rd Apr-Jun	4th Jul-Sep	
0.0	**Start project.**										
0.1	Recruit and hire Project Staff.	WW,DT									**Completed 10/98**
0.2	Notify PAC members that the Project was funded.	WW									**Completed 11/98**
1.0	**Develop hypotheses with input from key stakeholders to focus the Project and enhance the usability and validity of the synthesis activities and outcomes.**										
1.1	Recruit remaining Project Advisory Committee (PAC) members.	WW,MK									**Complete 1/99**
1.2.	Schedule annual PAC meeting.	MK									**Completed 12/98**
1.3.	Hold annual PAC meeting.	WW,DT, MK									**Completed 1/99**
1.4	Solicit model site nominations from PAC members and field "experts".	MK,WW									**Completed 5/99**
1.5	Develop and refine research questions and hypotheses with input from PAC members.	Project Team, PAC									**Completed 1/99**
1.6	Develop/refine model site selection criteria for On-Site Case Studies.	Project Team, PAC									**Completed 4/99**
1.7	Develop and refine interview questions for On-Site Case Studies.	Project Team, PAC									**Completed 5/99**

SD Synthesis Project Timeline

Obj #	Objective	Staff	Year 1				Year 2				Status
			1st Oct-Dec	2nd Jan-Mar	3rd Apr-Jun	4th Jul-Sep	1st Oct-Dec	2nd Jan-Mar	3rd Apr-Jun	4th Jul-Sep	
2.0	**Review, analyze, and evaluate the literature on SD/SA to identify trends, areas of agreement and disagreement, unanswered questions, and gaps in the knowledge base.**										
2.1	Conduct a computerized search through selected resources from 1975 to present	MK, AW, JN									Completed 3/99
2.2	Search citations from previous syntheses and meta-analyses on transition.	JN,AW, MK									Completed 4/99
2.3	Conduct a manual search of published material.	MK,JN, AW									Completed 1/00
2.4	Solicit unpublished documents (i.e., project monographs, project reports, etc.)	MK									Completed 6/00
2.5	Standardize meta-analysis screening procedures via training Project staff.	BA,DB									Completed 5/99
2.6	Conduct supervised searches to 90% accuracy.	BA,MK									Completed 4/99
2.7	Screen the large body of literature using prescribed criteria for meta-analysis.	Project Team									Completed 1/00
2.8	Mark articles to be included in meta-analysis (MA).	DT,BA, DB									Completed 1/00
2.9	For MA articles, enter code number, title, author, and abstract into data-base file.	JN,AW									Completed 1/00
2.10	Collect inter-rater agreement data on 25% of the identified articles.	DT,MK									Completed 12/99
2.11	Analyze and code literature	MK, DT, AW									Completed 12/99
2.12	Transfer coded data from coding forms to electronic spreadsheet.	MK,AW									Completed 1/00
2.13	Check for accuracy with item-by-item, line-by-line examination by 2 researchers	MK,AW									Completed 1/00
2.14	Summarize characteristics of the obtained literature and compute effect sizes (Hedges' g) for each study.	DT,BA, DB									Completed 8/00

SD Synthesis Project Timeline

Obj #	Objective	Staff	Year 1				Year 2				Status
			1st Oct-Dec	2nd Jan-Mar	3rd Apr-Jun	4th Jul-Sep	1st Oct-Dec	2nd Jan-Mar	3rd Apr-Jun	4th Jul-Sep	
3.0	**Examine the SD/SA practices through in-depth analysis of four exemplar sites.**										
3.1	Put notice in selected newsletters soliciting nominations for SD/SA model sites.	MK									Completed 1/99
3.2	Solicit site nominations from recognized experts in SD/SA.	MK									Completed 4/99
3.3	Select sites using criteria developed by PAC and Project staff.	Project Team									Completed 3/00
3.4	Recruit a Site Liaison in each location.	MK									Completed 3/00
3.5	Schedule first two site visits.	MK									Completed 8/99
3.6	Schedule second two site visits.	MK									Completed 3/00
3.7	Get permission/clearance documents signed.	MK, SLs									Completed 5/00
3.8	Conduct On-Site Case Study visits.	Project Team									Completed 5/00
3.9	Transcribe and enter narrative case study data into computer for qualitative analysis using QSR NUD*IST software.	MK,AW, LH,CS									Completed 3/01
3.10	Analyze and code data by inserting symbols into text to mark different themes.	WW,MK									Completed 6/01
3.11	Re-organize data from on-site case studies to identify themes, consistent practices, concepts, behaviors, etc.	WW,MK									Completed 8/01
3.12	Conduct cross-site analysis.	WW,DT, MK									Completed 8/01
3.13	Review printed literature to analyze and code narrative material.	WW,DT, MK									Completed 8/01
3.14	Re-organize data from literature to identify themes, consistent practices, concepts, behaviors, etc.	WW,DT, MK									Completed 8/01
3.15	Conduct site/literature comparison.	Project Team									Completed 9/01

SD Synthesis Project Timeline

Obj #	Objective	Staff	Year 1				Year 2				Status
			1st Oct-Dec	2nd Jan-Mar	3rd Apr-Jun	4th Jul-Sep	1st Oct-Dec	2nd Jan-Mar	3rd Apr-Jun	4th Jul-Sep	
4.0	**Communicate and develop an array of successful products and procedures for dissemination through technical assistance and information dissemination networks**										
4.1	Develop mail list for linkage with technical assistance providers and disseminators	JN,AW									Completed 2/99
4.2	Submit 2 to 3 manuscripts to journals for publication.	WW,DT, BA,DB									7 submitted by 12/01
4.3	Write up 4 case study profiles of model sites for dissemination.	WW,DT, MK									Completed 9/01
4.4	From literature and/or sites, write up 2 to 3 sample IEPs with exemplary coverage of SD/SA.	MK									Completed 6/01
4.5	Publish exemplar IEP meeting protocols which demonstrate student leadership or involvement.	MK									Completed 6/01
4.6	Collect and disseminate examples of SD/SA lesson plans.	MK									Lesson plans and curricula collected
4.7	Develop and disseminate parent/family member communiqués on encouraging choice and SD/SA in their children.	MK									Preliminary materials developed 5/01
4.8	Collect and disseminate newsletter articles on SD/SA for use as reprints.	MK									Collected but not disseminated
4.9	Other materials may be identified for dissemination from the On-Site Case Studies which will be packaged for Project dissemination.	MK,JN, AW									Collected between 5/98 and 5/00
4.10	Publish resource lists on available SD/SA curricula, books, references, etc.	MK,JN, AW, RG									Current list published on web page, provided upon request via mail
4.11	Develop and maintain a Project home page to contain materials for downloading, e.g., reference lists, resource list, sample IEP, parent/family member communiqués.	MK,RG									Page online since 1/99

SD Synthesis Project Timeline

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4.12	Present at national conferences with special education and/or transition audiences.	Project Team				▬	▬	▬	▬	▬	13 presentations completed; 2 pending
4.13	Write and submit annual Project Reports to US DOE- SEP Grants Office.	WW,DT, MK			▬				▬	▬	FY99 and Final Report Complete
5.0	**Evaluate the implementation and impact of this Project .**										
5.1	Staff will be trained on data collection for Project evaluation.	DT		▬		▬	▬				Completed 12/99
5.2	Review and modify evaluation procedures as appropriate.	DT, MK				▬			▬		Not needed
5.3	Analyze evaluation data and submit within Project Annual Report.	DT, MK			▬					▬	Completed 12/01

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